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OF AMERICA

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SUSTAINING ASSOCIATES

This space in the **BULLETIN** has become the Sustaining Associates column. We hope that our readers regularly note the firms listed here. These corporations and other organizations demonstrate in a real way their interest in the continued growth and development of this Society and of the entomological profession.

The lists of Sustaining Associates published in previous issues of the **BULLETIN** did not specify membership years. Part were effective for 1955 and the remainder for 1956. A complete listing with effective years is planned for the March **ANNALS** and the April **JOURNAL**. The firms listed below were 1955 Associates who had renewed for 1956 as of March 1, 1956.

Birds Eye Laboratories, 162 South Main Street, Albion, N. Y.

Chemagro Corporation, 101 Park Avenue, New York 17, N. Y.

G. L. F. Soil Service, Div. of Coop. G.L.F. Exchange, Inc., Ithaca, New York

H. J. Heinz Company, Medina, New York

Hercules Powder Company, Agricultural Chemicals Division, Naval Stores Department, Wilmington, Delaware

Jackson & Perkins Company, Newark, New York.

Niagara Chemical Division, Food Machinery & Chem. Corp., 100 Niagara Street, Middleport, N. Y.

S. B. Fenick & Company, 50 Church Street, New York 8, N. Y.

Pennsylvania Farm Bureau Cooperative Association, 3600 Derry Street, Harrisburg, Penn.

Port Fertilizer & Chemical Co., P. O. Drawer W, Los Fresnos, Texas

Rohm & Haas Company, 222 W. Washington Square, Philadelphia 5, Penn.

Stauffer Chemical Company, 380 Madison Avenue, New York 17, N. Y.

United Fruit Company, Research Department, 80 Federal Street, Boston 10, Massachusetts

AUTOGRAPHA O O

This marks the first issue of volume 2 of the **BULLETIN**. We hope, that having survived its first year, the second may be one of improvement. The writer of these words well appreciates that, should any deathless prose grace this sheet, he will not be the author. Nevertheless we do want to make the **BULLETIN** helpful to all our readers and we sincerely hope it will contribute in some measure to the advancement of entomology.

PRESIDENT'S MESSAGE. Dr. Porter's comments on page 1 are brief and to the point. He well expresses what this office tries to make its watchwork in our dealings with members, sustaining associates and subscribers.

ANNUAL MEETING. Whether or not you were able to attend the meeting in Cincinnati you will be interested in Dr. Decker's Presidential Address beginning on page 2. You should be interested in the various reports on the meeting beginning on page 9.

APICULTURE-ENTOMOLOGY. All entomologists recognize—or should—the importance of the honey bee. Dr. E. C. Martin of Michigan State University has a paper in this issue which summarizes interesting information of the problems of apiculture—and the relation of that field of endeavor to entomology.

BRANCH MEETINGS. The Cotton States Branch met in Atlanta, Ga., February 6 to 8 and the Southwestern Branch in Fort Worth, Texas, February 20-21. The new officers of these Branches are listed under Branch Officers in the back of this issue. Proceedings of these meetings will probably appear in the June 1956 **BULLETIN**. Announcements of other meetings will be found elsewhere in this issue.

CANADIAN AND MEXICAN MEMBERS. If you have not already done so, please advise the Secretary of your chosen Branch of your desire to be affiliated with that Branch. You should elect only one Branch although you are, of course, welcome to attend any Branch meeting.

INDEX X. Please note the proposition on page 5 in regard to this volume of the *Index to the Literature of American Economic Entomology*.

MEMBERSHIP. The chairman of the national Committee on Membership is Herbert Knutson, Dept. of Entomology, Kansas State College, Manhattan, Kansas. The chairman of the Pacific Branch membership committee is H. H. Keifer, 1112 Swanson Drive, Sacramento 14, California, and of the Eastern Branch, A. C. Miller, Gulf Research and Development Co., Box 2038, Pittsburgh, Pa. Chairman of Membership Committees in the other Branches will be announced later. Let's aim for 500 new members in 1956.

ENTOMA. Please note Edition 11 announcement on page 20.

Meetings

HOLLYWOOD, FLORIDA. Hollywood Beach Hotel, March 14, 15, and 16, 1956. The Spring Meeting of the National Agricultural Chemicals Association.

WEST LAFAYETTE, INDIANA. Purdue Memorial Union, Purdue University, March 28, 29, and 30, 1956. The Eleventh Annual Conference of the North Central Branch of the Entomological Society of America.

CHICAGO, ILLINOIS. Drake Hotel, May 20, 21 and 22, 1956. The Forty-Second Mid-Year meeting of the Chemical Specialties Manufacturers Association.

BERKELEY, CALIFORNIA. Claremont Hotel, June 25-28, 1956. The Fortieth Annual Meeting of the Pacific Branch, Entomological Society of America.

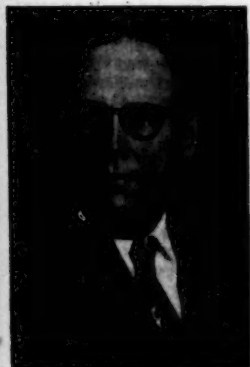
MONTREAL, CANADA. Tenth International Congress of Entomology. August 17-25, 1956.

SERVICE

A MESSAGE FROM THE PRESIDENT

By B. A. PORTER

As our Society year gets under way, I am taking the liberty, at the risk of being accused of moralizing, of expressing what I believe should be, and to a large extent is, the motivating philosophy of our profession and Society.



B. A. PORTER

Greatness is described in Holy Writ as the performing of service "... whosoever will be great among you, let him be your minister; and whosoever will be chief among you, let him be your servant." I am sure that this applies to professions and to Societies as well as to individuals.

Our profession is primarily devoted to service to agriculture and to the general public. I believe that by the standards just cited our profession is a great one, and I hope that its greatness will increase. It is true that as individuals we have to give reasonable thought to our financial needs and those of our families, but this

need not interfere with the rendering of service. It is also true that we have among us a few self-seeking individuals, but most individuals of that type have entered fields that offer promise of greater financial rewards. I also believe that our Society and its predecessor organizations have been great, in that their main purpose has been service. May that service increase in extent and effectiveness. And it is my ambition that I may in the course of this year live up to the definition just quoted.

If the Society is to be of maximum service to the profession and to the general public (and that is the only reason I can think of for its existence), your officers and Governing Board should know what the members are thinking and what they feel the Society should be doing. So do not hesitate to write to me whenever you think that we are not doing something that you think we should be doing, or vice versa, and when you see things that you feel should be done differently. This of course does not mean that there will be immediate and positive action on all matters brought up, but I can assure you that all suggestions will be given serious consideration.

It is my earnest hope that we will have a year of effective and useful service.

World Health Day

April 7, 1956 has been designated World Health Day by the World Health Organization—WHO. Of particular interest to entomologists is the theme for the day, *Destroy Disease-Carrying Insects*. April 7 marks the 8th anniversary of the ratification of the Constitution of WHO with 85 nations around the world now belonging to this organization. WHO is one of the largest specialized agencies of the United Nations. The theme noted above focuses attention of WHO's goal of world wide eradication of malaria and on the relentless war against all insect-borne diseases. Most of the entomologists concerned in the task to *Destroy Disease-Carrying Insects* are members of this Society and we salute their progress. For additional information write the Office of Public Information, Pan American Sanitary Bureau, Regional Office of WHO, Washington, D. C.

Annual Review

Volume I of the ANNUAL REVIEW OF ENTOMOLOGY appeared on schedule and 840 of our members now have their copies—and are receiving invoices! In the back of this issue of the BULLETIN you will find a review of this volume. We think that Dr. Steinhilber and Dr. Smith deserve the thanks of all entomologists for this excellent beginning. A tentative list of contents for Volume II was published in the June 1955 BULLETIN. An up-to-date Table of Contents will be brought to your attention later. We will, sometime this year, furnish each member with an order blank for volume II, due to appear in 1957. It seems quite evident that these annually appearing books will increase in value to working entomologists and that each of us should purchase all volumes as published as a practical method of keeping abreast of our rapidly expanding profession.

CHANGING HORIZONS

BY GEORGE C. DECKER¹

Entomologist and Head, Section of Economic Entomology, Illinois Natural History Survey and Illinois Agricultural Experiment Station, Urbana

From the very beginning of recorded time man has recognized the existence of insects and regarded them with mixed emotions. We are told that in ancient civilizations some regarded locust plagues as



GEORGE C. DECKER

divinely imposed punishment for sins to be endured as penance, while others considered insects as a valuable source of food, and many early Egyptians worshipped the Sacred Scarab in recognition of its industry. The earliest preserved records of man assure us that insects were recognized as man's competitors for food and fiber at a very early date and we now know that for centuries they played an important role in determining the course of history through the spreading of insect-borne diseases.

It seems apparent that man began to observe insects and to describe and preserve them more or less as a hobby. When the number of recognized species became so large it was no longer possible to keep track of them, necessity became the mother of invention; a system of nomenclature and classification was developed. Then the need for reliable distinguishing characteristics led to the study of insect morphology. Thus entomology, the concerted study of insects, came into being. At first species were poorly defined, groupings were somewhat crude and often unnatural, but a start had been made and the volume of entomological writings increased rapidly. The need for improved methods of communication led to the formation of local clubs and eventually to larger societies which in turn brought about the development of purely entomological publications. For many years the budding science of entomology remained largely descriptive in character. The taxonomists described species and naturalists were content to merely record their observations. Control measures were practically unknown and those proposed were for the most part inadequate or ineffective.

Perhaps it was only natural that applied entomology should have had its origin in America. When the colonists came to America they encountered new pests and they inadvertently brought with them some of their old enemies which, when released from the pressure of their natural enemies, thrived and increased abundantly in the new environment. History tells us that the insect problems of these colonists were many and varied, but land was abundant and even after reluctantly feeding the insect hordes the early settlers usually found enough left to meet their needs. Nevertheless, it soon became apparent that they could no longer tolerate the tax imposed upon them by insects. They were admittedly unable to cope with this problem by themselves and so sought aid from their government.

There may be some significance in the fact that this rebellion against the unbearable tribute collected by insects had its origin in Massachusetts and may have been sponsored by the same men who participated in another famous tax protest, the historic Boston Tea Party. In any case, on the basis of public demand, the Massachusetts legislature commissioned T. W. Harris to prepare his famous "A Treatise on Some of the Insects Injurious to Vegetation," which appeared in 1841. Farmers elsewhere made similar demands and soon the federal government and several of the states employed entomologists to assist the farmer in solving his problems. Several such appointments pre-date the appearance of the land grant colleges.

From this humble beginning professional entomology has grown steadily until at the present time upwards of 5,000 Americans are employed in some phase of entomological endeavor. As time passed, the growing science of entomology became more and more complex. Soon most entomologists found it expedient, if not indeed necessary, to devote the major portion of their energies to one or at most two or three specialized phases of this highly diversified science. Now we recognize as quite distinct phases of the over-all field: taxonomy, morphology, physiology, toxicology, ecology, and applied entomology with its many subdivisions.

As specialization developed some found it increasingly difficult to adequately define entomology and lines of cleavage raised their ugly heads. For a time specialized groups tended to become suspicious and even jealous of one another, but their interdependence soon proved to be more important than their somewhat imaginary differences, and evidences of friction began to decline. Perhaps we have all come to agree with one of our great leaders who long ago proclaimed: "All entomology is economic." Certainly we all recognize that with possible minor exceptions all entomology is in one way or another sustained morally and financially by society as a whole and we are all therefore destined to serve in a common cause. Taxonomists generally recognize that to a very large extent funds to support their activities are and will continue to be forthcoming in proportion to the needs of entomology as a whole. It is indeed conceivable that if those working in other fields did not require the services of the taxonomist, appropriations for such work might dwindle to near the vanishing point. This applies equally to morphology, physiology, toxicology, and the other branches of the science as a whole. As evidence of our desire for unity we need only recall that three years ago the two large national entomological organizations of the country amalgamated to form the all-inclusive Entomological Society of America, with adequate provisions for the inclusion of all in a single unified organization. If and when we are ever again tempted to exaggerate the importance of our own specialty and deprecate the work of others, let us pause and consider well that our friends the zoologists are prone to regard all entomology as a very minor phase of the science of zoology.

Entomologists have long been well aware of the potentialities of the insect world. However, many scientists in other fields and most laymen do not recognize insects as man's chief competitors for food and a constant threat to his position of supremacy

¹ Presidential Address, Third Annual Meeting of the Entomological Society of America, November 28, 1955.

on this planet. They fail to recognize that insects made their appearance very early in geological time, and through the exacting and infallible processes of evolution which eliminated the maladjusted, they became extremely diversified and so perfectly adjusted to the environment in which they lived that they had assumed a position of dominance in the animal world long before man made his appearance. Then, too, these same philosophers are prone to overlook the fact man is in reality poorly adapted to his surroundings, and his very survival is largely attributable to his ability to adjust or modify the environment in which he finds himself to fit his requirements.

To date man has been eminently successful in meeting the challenge of the insect world and we as entomologists can justifiably take pride in our accomplishments. Our taxonomists have discovered, identified, and at least tentatively classified some 800,000 species of insects estimated as 40 to 80 per cent of the world insect fauna. Literally hundreds of monographic studies have been published and at least a dozen states have comprehensive check lists of their insect fauna in varying stages of preparation. The morphologists have provided a reasonably satisfactory working knowledge of insect anatomy which is extensively used by taxonomists, physiologists, toxicologists, and biologists alike. Insect toxicologists have made considerable progress in the evaluation of available insecticides, in the development of new insecticidal chemicals, and in the determination of their respective modes of action. In the few short years that have elapsed since its inception, insect physiology has made valuable contributions to our knowledge of insect nutrition, metabolism, the action of enzymes, and many other physiological processes. Insect biologists and ecologists have completed and published the results of hundreds of studies and the voluminous literature in this field is used daily by research and extension entomologists everywhere.

In the field of applied entomology the full extent of our progress is often somewhat obscured by a complex of ever-changing circumstances and conditions. From the very beginning entomologists have been extremely lax in the matter of collecting and recording exact quantitative data on the precise magnitude of insect damage. Thus we have few exact points of reference with which we can compare the present with the past. In general only the more or less catastrophic insect outbreaks are adequately recorded in literature. Then, too, our memories are often faulty. We recall that grandfather had a home orchard and how we enjoyed the fruit thereof, but only after prolonged meditation do we also recall that only one apple in ten was fit for storage in the fall and even then in preparing a pie grandmother had to cut out numerous codling moth damaged areas.

Since entomologists are always accused of exaggeration, I quote the distinguished Horace Greeley, who in 1870 said: "If I were to estimate the average loss per annum of the farmers of this country from insects at \$100,000,000, I should doubtless be far below the mark. The loss of fruit alone by the devastations of insects, within a radius of fifty miles from this city, must amount in value to millions. . . We must fight our paltry adversaries more efficiently, or allow them to drive us wholly from the field."

Let us remember too that our demands for quality have also changed. Fruit, grain and other agricultural products readily accepted at the turn of the century could not move in interstate commerce or be sold on the market under present day regulations.

In general our progress has been such that despite the paucity of precise quantitative data, one would have little or no difficulty in citing a long list of once serious pests for which practical control measures have been developed. Orchardists are now able to produce fruit crops 90 per cent free of insect damage instead of crops 50 to 90 per cent insect damaged

which were produced in years gone by and are still evident in unsprayed orchards. The Colorado potato beetle, which came close to eliminating Irish potato production just about 100 years ago, is no longer regarded as a serious pest. Grasshoppers, Mormon crickets, and chinch bugs, which less than a century ago caused many midwest pioneers to give up in despair and abandon their farms, can now be controlled with comparative ease. Many insect vectors of important human diseases have been brought under control to such a degree that the once dreaded diseases malaria, yellow fever, cholera, and bubonic plague are no longer scourges of mankind and there are those who feel that we may be well on our way to the eradication of at least some of them. Reasonably effective measures for the control of important household pests such as bedbugs, cockroaches, stored grain pests, clothes moths, and carpet beetles have brought peace of mind to the housewife and contributed much to the increased comfort of home. Measures developed for the control of insects attacking livestock, ticks and screwworms in particular, while contributing much to the success of the livestock industry everywhere, made the development of a livestock industry in the southeastern states possible.

Last, but by no means least, we have succeeded in elevating the status of the entomologist from that of the mocked, ridiculed, and sometimes scorned butterfly collector to that of a dignified and highly respected professional scientist. The ever-increasing breadth and complexity of the science of entomology made it mandatory that entomologists be broadly trained to acquire a working knowledge of the several basic sciences and then be tempered by extensive, sobering, practical experience. Thus it has come to pass that because of the depth and breadth of their training, entomologists in ever-increasing numbers are being sought out and placed in high administrative positions. Within the last decade no less than a dozen of our number have been appointed deans, directors, or presidents in land grant colleges and to other equally important administrative positions.

While basking in the sunlight of our accomplishments to date, we must not let the glory of our initial successes lull us into a false sense of security. Even today we are sharing cropping with the insects which are taking a far greater share of our annual production than we realize. As world populations increase the competition between insects and man will become even keener and we must recognize that insects will in the future, as they have in the past, continue to exercise their dynamic powers and make unpredictable adjustments to meet changes in their environment whether man made or natural. Most laymen and many scientists in non-biological fields often find it difficult to understand and accept this fundamental concept of biology. They fail to comprehend the dynamic nature of living organisms and thus they fail to recognize that in biology change is eternal and therefore progress and success are often transitory. Just as surely as insects and other creatures will continue their evolutionary processes, so, too, entomology and even the Entomological Society of America will continue to evolve. New fields of endeavor will unfold and existing fields will undoubtedly become more highly developed and specialized.

A liberal expansion of basic or fundamental research is long overdue. Some may find it difficult to support the philosophy of a few advanced thinkers who insist that well trained scientists capable of doing original creative research should be given liberal appropriations and be permitted to do as they please, but few will deny that our great forward steps have had their origin in basic research and all will agree that we need several thousand answers for that ever-present question, "Why?"

In the field of taxonomy, for example, we have

already seen evidence of a trend away from the routine identification of specimens, the description of new species, and the preparation of check lists, catalogues and routine area faunal studies. More and more we find specialists engaging in comprehensive studies on the phylogeny, evolution, and zoogeography of insects, and studying insects as populations rather than as specimens on a pin. Then, too, phenomenal advances in the identification and classification of immature forms may result in surprising revisions of our present concepts of phylogenetic relationships.

It is ironic that while the lowly vinegar fly is unquestionably the most studied animal to be found in genetics laboratories and has contributed much to the science of genetics, our knowledge of the genetics of insects in general is at best fragmentary and poorly understood. The acquisition of resistance to chemicals by the house fly and many other insects has done much to stimulate interest in this field and we can well expect the results of work now underway to arouse men's curiosity to a point that they cannot longer refrain from developing this long neglected field.

Insect physiology will rapidly develop into a series of specialized fields and a better knowledge of nutrition, and the action or interaction of enzymes, hormones, and antibiotics acquired in these fields will enable experimental biologists and ecologists to better understand and perhaps even predict in advance with a much greater degree of accuracy the probable response of insects to a given environment.

As the insect toxicologists acquire more and more knowledge on the mode of action of the various chemicals, it seems entirely possible that they will identify and classify those characteristics of chemicals which make them toxic to insects and from that we may reach a point where new insecticides may be conceived in the mind of man, synthesized in a chemical laboratory and tailored to meet specific requirements. In time man may even conceive and develop insecticides highly toxic to insects and innocuous to man and other warm blooded vertebrates.

In the large and diversified field of applied entomology where advances in the past few years have been phenomenal and in some cases perhaps questionable, we need to pause and consolidate our gains lest perchance we, like inbred house flies, develop lethal factors that could retard our progress for years to come. The almost spontaneous development of a score of new insecticides and acaricides in the decade just past has all but converted many outstanding research stations into more or less routine chemical testing laboratories. While it is true long years of research on mechanical, cultural, and biological control methods have failed to solve many insect problems, the potentialities of these fields are tremendous. We must bear in mind that the funds devoted to such studies have been small compared to the sums spent annually by state, federal, industrial and other agencies on the development and evaluation of chemical control measures.

As we look to the future we must come to a renewed and fuller realization that insect control has two quite distinct phases: (1) population management, that is, the holding of destructive insect populations at such low levels they do not constitute a serious threat, and (2) emergency control measures that are applied when insect populations get out of bounds and drastic suppressive measures must be applied for the immediate protection of crops or public health. In our long-time planning the former should and undoubtedly will take precedence over the latter. More and more far-sighted individuals are returning to the time-honored concept that Nature is more efficient than man in managing insect populations. They recognize fully that practically all insect species have a reproductive potential that would permit them to increase a hundredfold in each

generation. To them the fact that insect populations normally fluctuate within a limited range and rarely more than double, treble, or quadruple from one generation to the next is ample evidence that Nature is 95 to 99+ per cent effective in its management of insect populations. They know, too, that man is fortunate when by his own efforts he can eliminate 90 per cent of a surplus insect population.

The biological control of insects will undoubtedly receive increased attention. The importation and release of the parasites and predators of certain important pests which are immigrants from foreign countries has met with considerable success, but all too often initial failures have been accepted as final. We may soon recognize that in becoming established in their new environment imported pests may have varied their habits or life cycle only slightly, but enough to make survival of their parasites difficult or impossible, but that by proper selection and inbreedings those same parasites may be induced to make a similar adjustment and thereby become effective. Thus it seems inevitable that we must and will place renewed emphasis on the study of Nature and attempt to emulate her by exaggerating those factors which tend to suppress pests and minimizing those factors which favor their multiplication. At the same time we must look forward to the development of practices that will favor the survival and, if possible, the increase of beneficial species, including the insect pollinators of plants as well as parasites and predators. Let us be mindful that our associates in the fields of aquatic biology and wildlife conservation have reversed the processes we propose to follow in suppressing insect pests and by improving local environments they have increased the production of desirable forms of animal life.

Insect pathology, still in its infancy, is destined to rise to a position of prominence. Insect diseases play an important role in Nature's plan, and while we need not look for many spectacular successes like the use of the milky disease on the Japanese beetle and the use of virus diseases to control the pine sawflies and the alfalfa caterpillar, we can anticipate some additional successes. Furthermore the acquisition of knowledge on the existence of insect pathogens and their role in the natural control of insect pests will contribute much to a better understanding of the causes of insect outbreaks.

My comments on the relative importance of insect management and emergency measures need not necessarily disturb our friends and associates in the chemical industry. The perfection of insect management practices will take years of patient research, and in the meantime we must continue to rely upon chemicals and other emergency control measures. In fact, we may reasonably expect the use of insecticides to expand for some years to come. We now have a reasonably adequate supply of quite thoroughly tested insecticides available and the recent amendment to the Food, Drug, and Cosmetic Act, often referred to as the Miller Bill, may easily slow down the rate at which new pesticides will become available for testing. This should eliminate much useless work on the testing of "also ran" materials that have no unique or especially desirable characteristics. For some time to come we may be able to intensify our efforts toward attaining the more efficient and the safer use of the insecticides now available.

The acquisition of a vast fund of knowledge and technical know-how that is not put to productive use seems wasteful and absurd, and yet it is doubtful if we are 50 per cent efficient in the use of the knowledge already acquired. Most county agents will tell you that a large percentage of their most perplexing calls for assistance have to do with insect problems, and yet very few of these men have any fundamental training in entomology. Many states have but one extension entomologist on their staff and a few have

none. This situation is badly in need of correction. We cannot expect farmers and laymen in general to acquire and properly apply an adequate knowledge of insects and insect control measures when suitable educational facilities are lacking. If land grant college administrators can justify the employment of several specialists in such restricted fields as agronomy, horticulture, livestock production, and home economics, we must increase our effort to convince them that one man cannot adequately cover a subject as complex as entomology which has ramifications in every field of production and every walk of life.

The recently rejuvenated Cooperative Insect Survey, which now places greater emphasis on insect detection and forecasting, is destined to grow. Individuals cannot by themselves acquire the information required to adequately anticipate insect outbreaks. As long as we have government services to collect data and predict the weather, hurricanes, ocean currents, and crop prospects for aviation, shipping, and market manipulators, the farmer is entitled to a comparable service for the forecasting of insect outbreaks and we should see that he gets it.

Entomologists find it increasingly difficult to prepare circulars and other types of literature that will adequately serve the farmer's needs. With a large array of available insecticides having specific and unique characteristics and highly variable field conditions to be met, we are rapidly approaching what has been termed the day of prescription entomology. Large cotton plantations, canning companies, and land management agencies, in recognition of this trend, now employ trained entomologists to check crops and recommend appropriate specific control measures or even supervise their application. Perhaps in the not too distant future trained entomologists will hang up shingles in strategic locations and begin the practice of entomology on a basis comparable to veterinary medicine. Still others with training in entomology and plant pathology will establish successful agricultural chemicals stores and accomplish much the same objective by providing sound technical advice with each sale, thus rendering a service in a sense comparable to that provided by a reputable pharmacist. How rapidly this movement will develop remains to be seen, but our colleges and universities should without further delay develop curricula that will adequately prepare students for entry into these fields.

With this brief review of current trends and a quick glance at the horizon ahead, one can hardly take a pessimistic view of the future in store for entomology. We should be ever mindful of the fact that in the broad sense of the term, entomology encompasses the basic science of entomology, several branches of applied science, and the art of pest control. Certainly there is much to be done and there should be plenty of room for all who wish to join hands with others and make their contribution, no matter how slight. We are now all united within the framework of one all-inclusive organization, the Entomological Society of America. At this point we might well adopt the national slogan of the 1770's, "In union there is strength," and steadfastly resist and oppose any and all movements that might tend to divide our ranks on a subject matter, regional, employment, or any other basis.

It seems reasonable to assume that entomology is and will continue to be rated and held in esteem or disrepute on the basis of its performance and contribution to science, human welfare, and national or world economy. Our future therefore will be largely of our own making. If we waste our resources and dissipate our energies in pursuit of unimportant or illogical goals, others will find it necessary to move in and take over important segments of our science. On the other hand, if we can constantly improve the caliber of entomological work and remain ever alert

to detect the potentialities of all new developments, we need not fear that brilliant successes may, as they have in the past, induce envious unqualified workers and administrators in other fields to usurp promising new lines of entomological research in quest of transitory glory and unearned prestige. If the history of the last two decades has any permanent meaning, it should be perfectly clear that the entomology profession solicits without reservation the cooperation of all, but will resist and condemn any attempt by unqualified individuals or groups to control or dominate entomological activities.

INDEX X

When number X of the INDEX TO THE LITERATURE OF AMERICAN ECONOMIC ENTOMOLOGY was published economic considerations made it necessary to obtain it in paper binding only. We have had numerous complaints regarding this. Inquires have been made regarding binding and we are using this method for exploration of interest.

If you are interested in one of the following write this office stating your preference.

1. Prefer to have your present copy bound. The copy must be in very good condition without torn, marked or dog-eared pages since copies would go to the bindery in a group and the copy received from a given individual would probably not be the one sent back after binding.

If at least 100 people are interested in this binding, which will match the other volumes, it can be done at a cost of \$1.25 per copy.

2. Prefer to purchase a bound copy. These would be new copies from our stock which we would have bound. The cost would be \$2.50 to members, and \$3.00 to non-members postpaid. Again we will need about 100 interested persons before action can be taken.

Please do not send in your copy at this time. If there is sufficient interest we will inform those writing us when to send their copies to this office.

F. C. BISHOPP

Dr. Bishopp left for Egypt on January 25, 1956. He will serve as Advisor to the Egyptian Ministry of Agriculture under the United States Operations Mission (U. S. O. M.) in Cairo. We are sure that Dr. Bishopp's service in Egypt will be a real advantage to the agriculture of that nation.

INSECTS OF MICRONESIA

The Entomology Department of the Bernice P. Bishop Museum in Honolulu, Hawaii is commencing a general entomological survey of the islands of the southwestern part of the Pacific. These islands are considered to be the principal source areas of the insect fauna of the oceanic islands or micropolynesia. The objects are to work out of zoogeography of the Pacific Island fauna and to improve the state of knowledge of the less known areas. The islands where collecting will be done include the New Hebrides, Solomons, Bismarcks, New Guinea, eastern Indonesia and the southern Philippines. Emphasis at the start will be on New Guinea, the Bismarcks and Bougainville. The program is being aided by a grant of \$23,000 from the National Science Foundation, and is under the supervision of J. L. Grassitt who started the field work in New Guinea and New Britain in 1955 under a Guggenheim Foundation Fellowship. Dr. Grassitt will take an assistant in 1956 and will also make an ecological study of a coconut hispid for the territory of Papua and New Guinea.

TEACHING, RESEARCH AND EXTENSION IN APICULTURE IN THE UNITED STATES

E. C. MARTIN
Michigan State University

This study was initiated by the author's appointment as chairman of the Educational Research Committee of the American Beekeeping Federation Inc. The function of the committee is to be informed on facilities for teaching, research and extension relating to beekeeping and to advise or help the industry in its efforts to obtain a reasonable share of training facilities and technical help. The committee will also assist in locating trained men for technical jobs and locating jobs for trained men.

Beekeepers are beset with many problems; probably more than many of the larger agricultural industries. The number of technical workers is quite limited. For example, about a dozen apiculturists attend meetings of the Entomological Society of America whereas the 1955 meeting of the Poultry Science Association at East Lansing mustered about one thousand scientists associated with poultry work. The relative numbers attending these meetings may have some correlation to the number of persons employed in the two industries but they bear little relationship to the problems requiring solution or the value of the industries in the national economy. Entomologists are undoubtedly aware of the fact that bees are indispensable in the agricultural economy because they pollinate many plants necessary for the survival of present human populations.

SURVEY METHODS—In January, 1955, a questionnaire was sent to each state addressed to the apiculturist, or the head of the college department where apiculture would most likely be located. The questionnaire asked for the name of the apiculture teacher, courses taught, assistantships and facilities; research personnel, facilities and projects; extension personnel and projects and the apiary inspector. Ideas were solicited as to the best way to do a job of teaching, research and extension that would more adequately serve the field of apiculture and the beekeeping industry.

Replies to the questionnaire were received from 47 institutions in 43 states and Alaska. Replies were not received from Connecticut, Georgia, Hawaii, Indiana, South Carolina, and South Dakota. Results have been compiled in a mimeograph which is available from the author.

SUMMARY OF RESULTS—The results are of interest in that they give a picture of the overall academic and technical facilities for apiculture in the United States. Although it is felt that the compilation is reasonably accurate in detail there may well be important research projects and some teaching being carried on at a limited number of institutions which were not contacted. The results indicate that apiculture is normally located at the land-grant college or university in the entomology department. In New Hampshire and Tennessee apiculture is in the horticulture department.

TEACHING—Some apiculture is taught at 36 institutions in 31 states. In Arizona, California, Kansas and New York apiculture is taught in more than one institution. Courses can be sorted into six categories:

(a) An introductory course, as an elective, designed for entomology majors, future county agents, vocational agriculture teachers and various students with a particular interest in the subject.

(b) An advanced course for senior and graduate students, often dealing with research in the field.

(c) A special course called insect pollination or pollination apiculture, dealing with honey bees and native bees in relation to pollination. A separate course in this subject is taught in at least three states.

(d) Special problem courses for variable credits are available in 19 states. These courses provide the best opportunity to give specialized training to the limited number of students who plan a career in apiculture or who want special training beyond scheduled courses.

(e) Research problems and theses, for graduate students only.

(f) Practical courses for students designated as 2-year, diploma, vocational or short course.

Graduate assistantships specifically for apiculture were reported available at the University of California at Davis, Iowa State College, University of Minnesota, Cornell University and the University of Wisconsin. Several other institutions have graduate assistantships in entomology which could be available to a student with a major interest in apiculture.

RESEARCH—Nineteen states carry on research on a more or less continuous basis. Periodic apicultural projects are carried on in other states. In addition to this the Beekeeping and Insect Pathology Section of the Entomology Research Branch of the United States Department of Agriculture has a headquarters laboratory at Beltsville and regional laboratories at Madison, Wisconsin; Baton Rouge, Louisiana; Laramie, Wyoming; Tucson, Arizona, and Logan, Utah. The regional laboratories normally have a cooperative arrangement with the college or university at which they are located. Honey research is conducted at the Eastern Utilization Research Branch of the United States Department of Agriculture at Philadelphia.

EXTENSION—Nine states have part-time extension specialists in apiculture officially attached to the Cooperative Extension Service; with full-time extension specialists in Ohio, Pennsylvania and Florida. In nine other states trained apicultural teachers or research workers, not officially attached to the Extension service do various types of extension work. In 15 states members of the entomology departments or apiary inspectors answer correspondence, attend meetings and in other ways carry on some beekeeping extension. No extension activity was reported from the remaining 12 states.

The major responsibility of the extension specialist is to act in an educational and advisory capacity to all phases of the established beekeeping industry and also to advise seed and fruit growers on pollination and bee poisoning problems. Nine states reported 4-H club work with bees; six states reported correspondence courses and Pennsylvania, Minnesota and Maryland reported short courses longer than 2 days.

REGULATORY—All states with the exception of West Virginia have a chief apiary inspector, responsible for administering a bee disease act. In five states the apiary inspector is attached to the college but in most states the regulatory work is completely separated from the college. In some states, particularly where there is no extension specialist the inspector carries on some extension work, including such activities as correspondence, newsletters, asso-

ciation secretary, or superintendent of the apiary section of the state fair. The United States Department of Agriculture provides assistance for grading, market news, crop statistics, price support and other marketing problems.

INTERPRETATION AND DISCUSSION—The questionnaire provided opportunity to discuss ways and means of improving teaching, research and extension in apiculture. A meeting of apiculture specialists during the 1955 convention of the American Beekeeping Federation provided further opportunity for discussion. The following is an attempt to interpret and assess trends of thought on some of the subjects discussed.

A. Does apiculture rightfully belong in Entomology?—In general the housing of apiculture in entomology departments was accepted as the most logical and likely place. However, there were reservations. The thought that apiculture is an orphan that has become the foster-child of entomology was expressed. In some states where apicultural facilities would be justified entomologists have no interest in assuming responsibility for promoting apiculture. They may know nothing about the subject and because of this are antagonistic to taking on an apiculturist when their interest indicates that they have prior need for a taxonomist or a morphologist. In this trend of thought objections were registered to the hiring of an apiculturist supposedly for apiculture work and then making a first-rate apiculturist justify his existence as a third-rate general entomologist. Another fault was considered to be the appointment of entomologists who lack adequate apiculture training to apiculture positions. Men with adequate practical and academic background are being trained at several institutions.

The compatibility of the art and science of bee husbandry with the more rigidly scientific viewpoint of the entomologist was also posed as a problem, with the corollary situation of poultry husbandry attached to ornithology being submitted by way of emphasis.

B. Teaching apiculture.—Six different categories of apiculture courses were mentioned above. Different ideas were expressed as to the best way to teach introductory apiculture. In many institutions this was the only course regularly taught. Some insist that much of this course should consist of practical laboratory work in the apiary. Others maintain that practical contact with bees should be left to the individual student and is not necessary for this type of course; that the course should emphasize the science aspects of bee behavior, pollination and the application of science to a practical field. It should attract future county agents, and vocational agriculture teachers if possible, in order to give them some appreciation of the industry. Where work in the apiary is feasible most consider that the course makes a greater impression on the student.

Facilities for graduate training are considered adequate with assistantships available in five states. Strengthening of existing graduate facilities would be preferred to attempting to turn out PhD's in many states which lack adequate library, and other facilities.

Training programs appear weakest for the undergraduate with a major interest in apiculture. Some institutions need to assume the responsibility for providing facilities to prepare the best type of student for the graduate schools. A student with enthusiasm for bee work can take all the background courses required of a general entomology major and still work in enough credits in apiculture throughout his undergraduate career to feed his enthusiasm and also have him ready in practical experience and knowledge of the industry to go logically on to further graduate training. In addition to this the

industry needs apiary inspectors, commercial beekeepers, supply manufacturers and honey packers who have bachelors degree training which includes considerable apiculture. More training in scientific aspects of beekeeping is desired for sons of many people in the industry, but present facilities are not attracting enough young people from the industry.

Most apiculturists agree that practical experience with a commercial beekeeper and possibly some apiary inspection experience is almost essential even for a research worker. A lack of early practical training definitely limits both acceptance and usefulness in this particular industry. A goodly proportion of the chief apiary inspectors are not college-trained. Even though academic training would be very helpful, undergraduate facilities are not adequate to supply the industry with college-trained men for inspection work. On the basis of competitive examinations good practical beekeepers have rightly been appointed to inspection posts in preference to graduates, lacking practical experience and often with limited contact with apiculture courses.

The following question was submitted for discussion, "Does the fact that technical men in apiculture have frequently come from Canada indicate that we are falling down in training facilities?" Several answers indicated that the complete apiculture facilities available for undergraduate training at the Ontario Agricultural College had provided men for every province of Canada and an overflow for the United States. It was felt by many that the situation in the United States could be improved and the industry benefited if four or five states enlarged their undergraduate facilities to prepare undergraduates for absorption into inspection work or the industry. Such students would normally be entomology majors, subject to the academic requirements for entomology but with a first interest and practical experience in apiculture. States providing these facilities would presumably be designated and attract students from other states.

Small classes are not popular with administrators and apiculture courses beyond the introductory course are inevitably small. Problem courses can be used effectively to keep apiculture specialists interested and working hard, with a minimum of time from the instructor. They must be justified in order to meet the obvious need for some trained men to serve apiculture.

C. Are state experiment stations supporting apicultural research at an adequate level?—In most states the beekeepers and their associations say no. Except for a limited number of states, research applied to the problems of beekeepers is at a low ebb. Regional laboratories of the Beekeeping and Insect Pathology section of the United States Department of Agriculture on the other hand have been more adequately equipped and have been solving many problems, particularly relating to bee breeding, pollination and diseases. Nationally, beekeepers are strongly organized in the American Beekeeping Federation, Inc., and they have been much more successful in obtaining federal funds for research than they have in developing facilities at state experiment stations. Practical results have apparently led the industry to feel that the best solution is to press for federal aid when need for research is urgent. However there is need for a balanced program of teaching, research and extension and state participation should continue in states where regional laboratories are located. If state participation ceases the beekeeping work has not necessarily advanced, it has just changed.

D. Is extension work adequate?—The questionnaire did not arouse much comment but the Chicago discussions brought out several points. (1) Some good honey-producing states have no extension spe-

cialist. Beekeepers want extension help to bring research information to the industry. When agricultural agents are now being supplied to some townships, beekeepers in honey-producing states feel that their industry warrants at least part time of one man. (2) Where a teacher or research man does extension work he should have a part-time appointment to the Extension Service and an appropriation for in-state travel. (3) The function of the extension specialist is not normally to stimulate new people into the honey business but to contribute to improved conditions for beekeeping and beekeepers. The current trend towards lower honey crops due to early cutting of hay, clean cultivation and other agricultural practices presents the extension specialist with a vital job. He must teach agricultural people and the public-at-large that fewer colonies of bees will seriously reduce yields of farm, backyard and other crops requiring pollination. In this connection he must also be concerned with the conservation and utilization of native pollinating bees. (4) The extension specialist should work with the county agent wherever possible, but the traditional method of passing on information to the county agent for him to give to the beekeeper breaks down in a specialized field like beekeeping and the specialist generally has to make considerable direct contact with the industry and its associations. (5) The eventual appointment of a federal extension specialist in apiculture is hoped for by the American Beekeeping Federation executives.

E. Should apiculturists give priority to attending the annual meeting of the Entomological Society of America or the American Beekeeping Federation?—This point was discussed with several people and caused some concern. Because apiculturists work alone or with practical beekeepers much of the time they are in particular need of an organized meeting place to periodically revive and strengthen their science background. Limited time and money for out-of-state travel makes it impractical for many to attend both the above meetings. By far the largest attendance is at the Federation meeting and with very worthy reasons. The very nature of the Federation meeting with three or four hundred representatives of beekeepers and allied industries from all over the United States congregating to obtain up-to-date information and make many decisions relative to their welfare, requires the presence of the people trained to help them. Many of the apiculturists are on several committees and are kept continually busy during the meetings. Attendance at the Federation meeting might profitably be required of most apiculturists. In spite of this there is a need and desire for contact with the broader field at the Entomological Society meetings and hence the problem.

CONCLUSIONS—(1) More adequate facilities for teaching, research and extension in apiculture are warranted primarily because bees are vitally needed to pollinate many important crops. (2) Facilities for teaching introductory apiculture to general students and for training graduate students are fairly satisfactory. The need for specialized undergraduate training could probably be met by improving the facilities of four or five institutions. (3) Research is needed and frequently requested by the beekeeping industry. Nationally, the industry has been fairly successful in obtaining federal research aid. Improved research facilities are needed in individual states. (4) An extension specialist is needed in several important honey-producing states. Besides his responsibility to the honey producers, the extension specialist has a responsibility to explain to farmers and agriculturists the need for adequate pasture for honey bees and conservation of native bees, in order to ensure crop pollination.

E. N. CORY

Joined the American Association of Economic Entomologists in 1911, Life Member 1948. Joined the Former Entomological Society of America in 1932. Honorary Member of the present Entomological Society of America 1954. Business Manager of the Journal of Economic Entomology and Secretary-Treasurer of the American Association of Economic Entomologists 1936-1946 and 1948-1952. President American Association of Economic Entomologists 1947. Interim Business Manager and Secretary-Treasurer of the present Entomological Society of America 1953. So reads the record.

Dr. Cory, who is State Entomologist and Head of the Department of Entomology, University of Maryland, is to be honored on May 24, 1956. For forty-seven years he has contributed unselfishly to the entomological profession, the University of Maryland, to agriculture, and to his fellow man. On numerous occasions his many friends have suggested that he be honored and given public recognition for his unselfish services. Recently a large group of these friends met and organized to consider the many suggestions. The group decided that a dinner at the University be given in his honor, at which time his portrait would be unveiled. At this dinner he will be given an appropriate personal gift, along with a volume of letters from his friends. A fund bearing his name is being established at the University to aid worthy students in Entomology.

The committee requested that all of Dr. Cory's many friends be invited to participate. The letter should be on 8½" x 11" paper, with a 1½ inch margin on the left side, and sent preferably unfolded. Tickets for the dinner may be reserved now. Those desiring to make a contribution should make their check payable to the "Cory Fellowship Fund." Orders for dinner tickets, letters and contributions may be sent to Dr. George S. Langford, Department of Entomology, University of Maryland, College Park, Md.

J. G. NEEDHAM

March 16, 1956 will mark the 88th birthday of Dr. James G. Needham, 6 Needham Place, Ithaca, New York. Dr. Needham was a charter member and Honorary Fellow of the former Entomological Society of America. He is one of the nine Honorary Members of the present Society. In addition to a long list of papers Dr. Needham has been the author or co-author of twenty-five books, from *Elementary Lessons in Zoology* issued in 1895 to *A Manual of the Dragonflies of North America* published in 1955. He is one of the select few who have not only seen the rapid development of our profession but has been in the forefront of that development as a teacher, author, taxonomist, aquatic biologist, researcher and exemplary scientist. Skool!

NECROLOGY

METCALF, Z. P. 70. William Neal Reynolds Professor of Entomology, North Carolina State College; former president of the Entomological Society of America. At Raleigh, North Carolina January 5, 1956.

PEAIRS, L. M. 69. Retired Entomologist, West Virginia University; Editor of the JOURNAL OF ECONOMIC ENTOMOLOGY January 1940-June 1953; Honorary member Entomological Society of America. At Mt. Airy, Maryland January 29, 1956.

MINUTES OF THE OPENING SESSION AND BUSINESS MEETINGS ENTOMOLOGICAL SOCIETY OF AMERICA

November 28 - December 1, 1955

Opening Session November 28, 1955

The meeting was called to order at 9:15 a.m. by President G. C. Decker. The assembled members and guests, led by C. R. Neiswander with Mrs. Neiswander at the piano, joined in singing the Star Spangled Banner. The invocation was given by C. R. Cutright. Preliminary announcements were made by Roy Rings, chairman of the Local Arrangements Committee, and by the Executive Secretary, R. H. Nelson. President Decker then introduced Robert Glen of the Canadian Department of Agriculture. Dr. Glen brought greetings from the Entomological Society of Canada and presented a lucid discussion of the plans for the Tenth International Congress of Entomology to be held in Montreal, Canada, August 17-25, 1956. Upon invitation from the chair Jose Guevara presented greetings from the Sociedad Mexicana de Entomologia.

President-Elect Porter took the chair and introduced President Decker who delivered the presidential address "Changing Horizons." Dr. Decker's address is printed elsewhere in this issue of the BULLETIN. Dr. Porter commented upon the clarity and vision of the president's remarks. A five minute recess was declared.

Preliminary Business Meeting November 28, 1955

The preliminary business meeting was called to order by President Decker at 10:45 a.m. The president's report was then presented.

1. **PRESIDENT'S REPORT**—In the years past the President was expected to make a brief report summarizing actions taken in behalf of the Society during his term of office. Under the structure of our new organization the official actions of the Society will be reported by the Executive Secretary, who also serves as the organization's Treasurer and Business Manager.

I cannot, however, refrain from pointing out that we have made notable progress in the past year, and I would be remiss in my duty if I did not acknowledge that such progress as we have made must be attributed to those who have carried the burden. During the first three months of the year when we were without the services of an Executive Secretary and your president was conveniently vacationing in Florida and points south, the President-elect, Dr. B. A. Porter, and Dr. Fred W. Poos, who reluctantly consented to serve as Acting Executive Secretary, rendered yeoman's service for which I am duly grateful. Then, too, in the face of many adversities Mr. Nelson and his staff have throughout the year rendered service with a spirit of devotion far beyond that which we have any right to expect. Likewise, I cannot laud too highly the painstaking and faithful work of our editors. The Governing Board has been most cooperative and has responded promptly to all requests, thereby expediting the transaction of the Society's business.

We are all deeply indebted to the Local Arrangements Committee which, under the able leadership of its Chairman, Dr. Roy Rings, spared no effort to make this our Third Annual Meeting both enjoyable and profitable.

Last, but by no means least, I must acknowledge the fine work of Dr. Paul Oman and his associates who developed the splendid program for this year's meeting. I am afraid all too few of us recognize the magnitude of the task that is annually performed by the Program Committee and we are often prone to be stingy in our praise and generous in our criticism of its efforts. Here I must note that such criticism as I have heard this year should have been directed at the Executive Committee and the Governing Board, not the Program Committee, which followed instructions implicitly. Last year the Governing Board voted to adopt the procedure followed by the A.A.A.S. whereby programs are distributed to members as they register at the meeting, and are made available to those not attending the meeting at cost. The Governing Board further directed the Executive Committee to establish a deadline for receipt of titles and abstracts that would assure publication of the program well in advance of the meeting. The deadline of September 15 was clearly set forth in the Committee's full page announcement on page 17 in the June issue of the BULLETIN. The September BULLETIN carried the following announcement:

"Paul Oman and his committee are developing a very good program for the Cincinnati meeting. See the synopsis in this BULLETIN. By action of the Governing Board a program of the annual meeting will be available gratis to each registrant at the meeting. Members not attending may obtain a copy postpaid from this office for 75 cents payable with your order. Stamps are acceptable."

I regret that some of our members have been upset and inconvenienced, but well over 100 titles came in on time and some who desired copies of the program in advance of the meeting were able to get them by November 11.

I was privileged to accept the invitation extended and attend all of the Branch Meetings. I found it a pleasant duty to appear at each of these sessions, to extend the greetings of the parent Society, and discuss Society affairs with those assembled.

When appropriate invitations are extended it is customary for the Society to be represented at a variety of conferences and special functions. Accordingly, the president appointed special delegates as follows:

Ray Hutson, to attend the Founders' Day Celebration at Michigan State College, E. Lansing, Michigan, February 12, 1955.

George F. Knowlton, to represent the E.S.A. at the inauguration of President Daryl Chase, Utah State Agricultural College.

Marston Bates to attend the Symposium on Educational Policies sponsored by the National Research Council Division of Biology and Agriculture at Michigan State College, E. Lansing, Michigan on September 6, 1955.

Ray Hutson to attend a conference on Biological Coding sponsored by the Chemical-Biological Coordination Center of the National Research Council at Michigan State College, East Lansing, Michigan, September 7, 1955.

Harry L. Parker to represent the E.S.A. at the International Congress for the Control of Enemies of Plants at Mondorf les bains, Luxembourg, Sep-

tember 6-9, 1955. All of these members attended the functions mentioned and, where desirable, submitted reports and other literature to the president. Their services are acknowledged with thanks.

I believe all routine appointees will be mentioned in the report of the Executive Secretary.

I have appointed a Resolutions Committee and the members, as listed in the Program, are as follows: W. G. Bruce, E. N. Woodbury, and Herbert Knutson, Chairman. Those of you who have proposals for resolutions should submit them to this committee at your earliest convenience.

2. President Decker introduced the Executive Secretary, R. H. Nelson. The Executive Secretary presented a summary of the Treasurer's report and moved its acceptance. The motion was seconded and passed. The complete Treasurer's report will be found elsewhere in this issue of the BULLETIN.

3. The Executive Secretary presented the nominations made by the Governing Board to fill vacancies on the Standing Committees. There were no nominations from the floor. It was moved, seconded and passed that the persons nominated be elected to membership on the committee designated. The members elected to these committees were as follows:

Committee on Insect Surveys—H. L. Bruer, K. D. Quarterman.

Program Committee—E. N. Woodbury.

Committee on Insecticide Terminology—P. A. Dahm, C. N. Smith, S. D. Beck.

Committee on Common Names of Insects—H. H. Schwardt, R. H. Painter, R. F. Smith.

Committee on Membership—P. A. Glick, D. L. Collins.

Committee on Insecticide Reference Standards—G. F. Ludvig.

Committee on Entomological Nomenclature—R. L. Usinger, C. W. Sabrosky, G. S. Walley.

4. The Chairmen of the Standing Committees, as designated by the Governing Board, were announced by the Executive Secretary. These are as follows:

Committee on Insect Surveys—C. G. Lincoln.

Program Committee—P. W. Oman.

Committee on Insecticide Terminology—H. L. Haller.

Committee on Common Names of Insects—R. I. Sailer.

Committee on Membership—Herbert Knutson.

Committee on Insecticide Reference Standards—Y. P. Sun.

Committee on Entomological Nomenclature—J. T. Medler.

5. H. M. Armitage read the report of the *Committee on Insect Surveys*.

6. P. W. Oman presented the report of the *Program Committee*.

7. F. F. Smith gave his reports as the Society's Representative to the National Research Council, Division of Biology and Agriculture and Representative to the Agricultural Research Institute, Agricultural Board. The meeting recessed at 11:45 a.m. to reconvene at 10:00 a.m. December 1.

Final Business Meeting

December 1, 1955

The meeting was called to order at 10:00 a.m. by President Decker. There were 114 members present. The following actions of the Governing Board as approved at their meetings on November 26 and 27 were read by the Executive Secretary. There were no questions from the members present.

1. ACTIONS OF THE 1955 GOVERNING BOARD—Future meeting dates have been set as follows: Hotel New Yorker, New York City, December 27-30, 1956, and Hotel Peabody, Memphis, Tenn., December 2-5, 1957. Also the possible sites for the 1958 meeting have been narrowed to three cities—Denver, Salt Lake City, and Portland.

A balanced budget involving anticipated income and expenditures of \$83,000.00 for the fiscal year 1956 was double checked and approved.

Applications for transfer from active to emeritus membership status were approved for: B. M. Broadbent, J. E. Dudley, H. E. Hodgkiss, J. A. Manter, G. H. Rea, and H. S. Smith.

In response to several suggestions the Governing Board voted unanimously to respectfully request that all parlors or courtesy suites maintained for the convenience and entertainment of our members attending annual meetings be closed during official meeting sessions and at 1:00 a.m.

The specific recommendations contained in the report of the *Committee on Insect Surveys* were approved and the Executive Secretary was instructed to proceed with their implementation.

Acting upon a recommendation of the *Program Committee*, the Governing Board established September 1 as the final date (permanent annual deadline) for the receipt of titles and abstracts of papers to be presented at the annual meeting.

Following a favorable mail ballot vote of the members residing in the states of Wyoming and Montana, the Governing Board approved a request that these states be permitted to transfer their affiliation from the North Central Branch to the Pacific Branch, effective at once.

The Board passed a motion providing that members of the Society residing in Canada and Mexico may register an affiliation with the existing Branch of their choice.

Acting upon a recommendation of the *Finance Committee*, a new schedule of charges for reprints was approved. The new schedule to be published in the BULLETIN will be applicable to all manuscripts accepted for publication after January 1, 1956.

The Governing Board instructed the Executive Secretary to establish a job placement service in the central office as a service to employers and members seeking employment.

The customary contribution of \$100 to the Zoological Society of London for the support of the Zoological Record was approved.

The Board reviewed the action relative to Sustaining Associates which was taken at Houston last year and unanimously agreed to continue the policy unchanged.

2. The Executive Secretary read the report of the *Committee on Membership*. J. L. Horsfall moved and F. W. Fletcher seconded that the Entomological Society of America accept the 362 new members proposed. Passed. This action was subsequently accepted by the 1956 Governing Board at their initial meeting.

3. The reports of the *Committee on Common Names of Insects*, the *Committee on Insecticide Reference Standards* and the *Committee on Insecticide Terminology*, as accepted by the Governing Board, were presented by the Executive Secretary.

4. The report of the *Resolutions Committee*, W. G. Bruce, E. N. Woodbury and Herbert Knutson, Chairman, was read by Dr. Knutson. He read each resolution, as presented below, and moved the adoption of each:

RESOLUTION 1. *Whereas* the Society has lost a number of members by death since the last meeting,

Be it resolved, that this Society, through its Secretary, extend sympathy to the families of the following:

Alden, C. H.	Mirimanian, M.
Allee, W. C.	Rockwood, L. P.
Bartlett, O. C.	Osburn, R. C.
Brues, C. T.	Rogers, J. S.
Gow, P. L.	Sasscer, E. R.
Heinrich, Carl	Schoene, W. J.
Hinman, E. J.	Schattenberg, E. A.

Seconded, H. M. Armitage. Passed.

RESOLUTION 2. *Whereas*, the Officers and Committees of the Society arranged a most successful meeting,

Be it resolved, that the members express appreciation for the efforts of the officers, program committee, the committee on local arrangements and others who have contributed toward the success of the meetings. Seconded M. P. Jones. Passed.

RESOLUTION 3. *Whereas*, the management of the Netherland Plaza Hotel has provided excellent facilities for our meetings,

Be it resolved, that we express our appreciation to the management of the Netherland Plaza Hotel. Seconded R. K. Latta. Passed.

RESOLUTION 4. *Whereas*, the Congress of the United States has passed the Miller Pesticide Residue Amendment which should provide an orderly procedure for the marketing of pesticides so essential to the production of food and fiber, and

Whereas, the Food and Drug Administration has, on the basis of the 1950 hearings, published tolerances for residues of many insecticides,

Be it resolved, that the Society express its appreciation of the publication of these tolerances and urge the continued and prompt establishment and adjustment of tolerances for residues of new insecticides.

Seconded W. G. Bruce. Passed.

RESOLUTION 5. *Whereas*, cattle grubs produce an average estimated annual loss of \$100,000,000, and,

Whereas, the present studies, although highly commendable, are none-the-less inadequate because of insufficient support,

Be it resolved, that programs of research on control by use of systemics and other means be continued and accelerated.

Seconded C. B. Philip. Passed.

RESOLUTION 6. *Whereas*, the commercial companies listed on the back of the banquet program have generously extended hospitality to attendants of the meeting at the buffet lunch and smoker,

Be it resolved, that members of this Society hereby express their appreciation to Industry for this courtesy.

Seconded H. M. Armitage. Passed.

RESOLUTION 7. *Whereas*, the United States Government through the International Cooperation Administration and the specialized agencies of the United Nations, such as the World Health Organization and the Food and Agriculture Organization, has been providing technical and economic assistance in the form of entomologists' educational fellowships, insecticides, sprayers, other equipment, and funds to assist economically underdeveloped countries throughout the world with programs for the control of insect vectors of human diseases and agricultural pests, and,

Whereas, the aid thus extended has proved to be highly effective of United States applied entomology resulting in the control of insects and diseases which have been among the major reasons that many nations had been unable to become economically self-sufficient,

Be it resolved, that the Entomological Society of America in recognizing the policy of the United States Government in extending this aid to those in need, recommends the continuation and expansion of this good neighbor policy in order to strengthen and improve the economy, health, agriculture and general well-being of peoples of free nations throughout the world.

Be it further resolved, that copies of this resolution be sent to: (1) Secretary of State; (2) Secretary of Health Education and Welfare; (3) Secretary of Agriculture; (4) Director, International Cooperation Administration.

Seconded D. R. Johnson. Passed.

RESOLUTION 8. *Whereas*, the expanding Cooperative Insect Survey has resulted in increased demand for prompt and authoritative identification of large numbers of insect species from diverse sources and,

Whereas, extensive control and regulatory programs involving hundreds of thousands of dollars are in need of prompt identification service as a guide to quarantine and eradication action and,

Whereas, the total requests for identification service by states has increased several-fold during recent years and,

Whereas, Federal and State research programs are in need of taxonomically acquired information to supplement investigations designed to produce more efficient controls of insect pests and,

Whereas, such an identification service is dependent upon critical and continuing taxonomic investigations that must precede requests for identifications,

Therefore be it resolved, that the Entomological Society of America lend its support whenever possible to efforts of State and Federal agencies to obtain increased financial support for insect identification activities.

Seconded W. G. Bruce. Passed.

RESOLUTION 9. *Whereas*, common names of insects are in general use in various semi-popular publications such as extension circulars, popular bulletins and semi-technical periodicals, and,

Whereas, such common names are in many cases not in accord with the approved list of common names and therefore often misunderstood,

Be it resolved, that the Society urge that the scientific name of each insect be included either in the text or in a footnote in all such publications. Seconded L. G. Davis. Passed.

RESOLUTION 10. *Whereas*, we believe that certain eminent entomologists are deemed worthy of election to membership in the National Academy of Science,

Be it resolved, that the President of the Entomological Society of America explore means of gaining entomological representation on the National Academy of Science.

Seconded C. B. Philip. Passed.

RESOLUTION 11. *Whereas*, the displays, films and exhibits at this meeting have been excellent,

Be it resolved, that the exhibitors be commended and that encouragement be given to similar program participation at future meetings.

Seconded L. G. Davis. Passed.

5. The President called for items of old business, and there were none.

6. The President called for items of new business.

7. C. B. Philip: In Section B we discussed the desirability of having a memorial lecture named in

honor of some eminent entomologist. We have a good many pioneer entomologists who deserve recognition. Most of our societies have lectures of this sort. I think the only memorial or commemoration of an eminent entomologist is the Thomas Say Foundation. One society even has three such lectures. Some carry honoraria, some are awarded to a young promising professional man in the Society. It can be any kind of lecture that gives some sort of recognition to a pioneer in the Society. The thought was that the new officers could appoint a committee to explore some means by which such a lecture could be provided annually at the meetings which would not only be an award to some member who was selected on one basis or another, at least it would recognize that we do have pioneers in entomology who have contributed to our profession. I would be in favor of having the new president appoint a committee to explore that possibility and bring it before the Society at the next annual meeting. I would like to move that the new president appoint such a committee to explore what kind of award or memorial lecture could be established that we could look forward to. It wouldn't necessarily have to be at the banquet—it could be preceding the presidential address, or it could be given at one of the general sessions.

Seconded by H. M. Harris, and passed.

8. *Dale W. Jenkins*: Next year the National Research Council is sponsoring a symposium on development and growth. Dr. Paul Weiss has suggested a symposium on insect development and growth, on a smaller scale than the one held on resistance. This would be a symposium for bringing foreign persons over here and would perhaps be at a date near the time of the International Congress. An alternative proposal has been that the National Research Council would assist in getting foreign entomologists to attend the International Congress. I have been asked to bring back to the National Research Council the feeling of the Entomological Society of America on this proposal.

G. C. Decker: Has there been any indication as to where the symposium might be held?

Dale W. Jenkins: Dr. Weiss' proposal at the time was that it be held at some place in the United States some time near the time of the International Congress so they would be able to attend.

Neeley Turner: I think from preliminary discussions that a substantial program has already been planned by our neighbors on that subject. I am heartily in favor of the proposal, however, and I would hope that it could be carried out by adequate sessions in Montreal, which after all is not inaccessible to our members. A rather large number of our members will be attending the Congress. Do you think it is proper for us to suggest to the National Research Council that it be held in connection with the Congress?

Dale W. Jenkins: I think from discussion with some of the people from Canada it would be advisable to have it held at the International Congress.

Robert Glen: I believe that the personnel involved that Dr. Weiss would like to see attend such a conference have in many cases been contacted. Some of them can come and are coming to a rather similar discussion in Montreal. Others could come if they had financial help. As matters stand we have a partial discussion arranged. I should not like to see two partial discussions on the same subject. I don't think they would have the same relative value as having it at the time of the Congress. It could be immediately before, immediately after, or during the Congress. If agreeable to this body, I should like to suggest that the matter of timing be left to the Program Committee of the Congress and Dr. Weiss.

I should like to add my support of having the symposium with the Congress.

Neeley Turner: I move that the Society endorse whole heartedly the proposal to bring over foreign specialists in growth and development of insects to participate in a symposium during the International Congress in Montreal and so inform the National Research Council.

Seconded by H. H. Ross. Passed.

9. *A. B. Gurney*: It occurs to me that possibly there would be some advantage to having a second business meeting at our annual meetings earlier than a final day such as today. I would like to suggest that in the future when the schedule of the program is being made up they give some consideration to that. If a second business meeting were held sooner I think we would get better attendance, and if thoughts of importance came up which required further consideration it might be possible to have a third session by recess so that interim thought could be given to those matters.

G. C. Decker: I think the incoming officers are well aware of the situation and I feel that some action along the lines you suggest will be taken.

10. At the request of the chair Dr. H. H. Ross escorted the new president, Dr. B. A. Porter, to the rostrum, where he was introduced and accepted the gavel from the retiring president, Dr. G. C. Decker.

B. A. Porter: The incoming president has a year to adjust himself to the thought of being president. He has a year in which to prepare an inaugural address if he feels one is called for. I will merely say I appreciate deeply the high honor you folks have conferred upon me. I will do my best to justify the confidence you have expressed in me.

Dr. Porter presented the president-elect for 1956, Mr. H. M. Armitage, and the two new members of the Governing Board, C. P. Clausen, elected by Section C, and Fred Fletcher, elected by Section F.

Meeting adjourned 10:50 a.m.

R. H. NELSON
Executive Secretary

ACTIONS OF THE 1956 GOVERNING BOARD

Initial Meeting December 1, 1955.

Following adjournment of the Annual Meeting an initial meeting of the 1956 Governing Board was called by President Porter.

It was decided that the program of the 1956 meeting will be printed in the September BULLETIN and will therefor go to all members. In addition copies will be furnished free to registrants at the meeting.

The registration fees for the 1956 meeting were set as follows: visitors—\$7.50; members—\$5.00; Student members—\$1.00; Invitation non-member speakers and member's wives—complimentary.

A rule was adopted which specifies that no paper of over 20 printed pages in length will be accepted for publication in the JOURNAL or the ANNALS without special approval of the Governing Board.

The Board approved the donation of \$1000.00 to the Entomological Society of Canada in support of the Tenth International Congress of Entomology to be held in Montreal in 1956.

The Board approved the election of 362 new members as acted upon in the final business meeting.

R. H. NELSON
Executive Secretary

REPORT OF THE AUDITOR

Dr. G. C. Decker, President November 18, 1955.
Entomological Society of America
Illinois Natural History Survey
Urbana, Illinois

Dear Sir:

In accordance with the recent request of Mr. R. H. Nelson, Executive Secretary of the Entomological Society of America, I have made an examination of the financial affairs of your society for the period December 1, 1954 through October 31, 1955. As a result of my examination, there are attached the following exhibits:

Exhibit "A"—General Fund—Statement of Receipts and Disbursements for the period December 1, 1954 through October 31, 1955.

Exhibit "B"—Permanent Fund—Statement of Receipts and Disbursements for the period December 1, 1954 through October 31, 1955.

Exhibit "C"—Entoma—Statement of Receipts and Disbursements for the period December 1, 1954 through October 31, 1955.

Exhibit "D"—Thomas Say Foundation—Statement of Receipts and Disbursements for the period December 1, 1954 through October 31, 1955.

Suggestions as to consolidating certain headings in your records of receipts and disbursements have been discussed with Mr. Nelson and your bookkeeper, and appropriate changes have been made in those records.

The matter of using a postage machine to give more control of your mailing costs was also discussed with Mr. Nelson, but it appears that the cost of installation and rental of such equipment is considered excessive in the light of the advantages to be gained.

In my opinion, the accompanying statements fairly present the recorded cash receipts and authorized disbursements made for the benefit of the Entomological Society of America for the period December 1, 1954, through October 31, 1955, on a basis consistent with that of previous periods.

Very truly yours,

JOHN A. HERL,
Certified Public Accountant.

"Exhibit B"

ENTOMOLOGICAL SOCIETY OF AMERICA PERMANENT FUND

STATEMENT OF RECEIPTS & DISBURSEMENTS For the Eleven Months Ended October 31, 1955

BALANCE NOVEMBER 30, 1954 \$27,470.30

RECEIPTS

Interest on Bonds \$ 172.96
Interest on Savings Accounts 384.70
Increment in Redemption Value of U.S.
Savings Bonds Series F 84.50

TOTAL RECEIPTS 642.16

Balance October 31, 1955 \$28,112.46

ABOVE BALANCE ACCOUNTED FOR AS FOLLOWS

Face Value	Securities	Book-Value
\$2,000.00	Province of Ontario, 5% Debenture Bonds of 1959—Cost	\$2,000.00
5,000.00	U.S. Savings Bonds, Series G—Cost	5,000.00
6,500.00	U.S. Savings Bonds, Series F—Current Redemption Value	5,343.00
13,500.00		\$12,343.00

CASH
First Federal Savings and Loan Association 9,532.41
Perpetual Building and Loan Association 6,237.05

TOTAL CASH 15,769.46

TOTAL SECURITIES AND CASH \$28,112.46

NOTE: The comments form an integral part of this statement.

"Exhibit A"

ENTOMOLOGICAL SOCIETY OF AMERICA GENERAL FUND

STATEMENT OF RECEIPTS & DISBURSEMENTS For the Eleven Months Ended October 31, 1955

BALANCE DECEMBER 1, 1954 \$16,971.82

RECEIPTS

Membership Dues—Previous Years	\$ 435.50
1954	2,410.00
1955	15,307.05
Future Years	277.50
Journal Subscriptions—Previous Years	241.25
1954	1,391.50
1955	9,257.95
Future Years	457.80
Non-Member Journal Subscriptions—Previous Years	540.76
1955	12,872.16
Future Years	2,935.84
Annals Subscriptions—Previous Years	805.00
1954	1,010.73
1955	3,300.26
Future Years	416.00
Non-Member Annals Subscriptions—Previous Years	55.80
1955	3,838.88
Future Years	520.20
Sale of Back Issues—Journal	1,518.64
Annals	181.98
Reprints—Journal	4,240.49
Annals	515.23
Sale of Indices—Previous Numbers	1,311.85
No. 12	461.90
No. 13	68.70
Paid Papers—Journal	726.23
Annals	515.24
Advertising Income—Journal	3,820.33
Annals	265.16
Illustrations—Journal	127.48
Annals	52.51
Miscellaneous Income	735.80
Sale of Entoma	497.49
Refund of Entoma Funds—Edition No. 10	325.00
Insect Facts	59.15
Sustaining Associates	4,400.00
Addressograph Services	381.13
Reimbursement on Travel and Meeting Expenses	26.37

TOTAL RECEIPTS 76,061.86

TOTAL CASH TO BE ACCOUNTED FOR \$93,033.68

DISBURSEMENTS

Journal—Printing and Mailing	\$23,242.94
Engraving	1,116.05
Reprints	2,058.54
Back Issues	230.50
Annals—Printing and Mailing	12,591.36
Engraving	1,607.08
Reprints	475.88
Bulletin—Printing and Mailing	1,320.97
Index No. 12—Printing	1,515.00
Index No. 13—Composition and Typing	767.37
Brochure No. 1—Printing	525.00
Miscellaneous Printing	109.13
Refunds	205.61
Postage and Shipping Expense	1,350.03
Addressograph Service	687.81
Salaries and Wages	20,958.43
Payroll Tax Expense	350.09
Federal Payroll Taxes—Withheld in 1954—Paid in 1955	320.40
Insurance Premium paid for Executive Secretary	500.00
Travel and Meeting Expense	2,225.68
Office Expense	1,119.69
Purchase of Office Furniture and Equipment	497.67
Accounting and Legal	300.00
Fidelity Bond and Insurance	123.77
Telephone and Telegraph	112.15
Editors' Miscellaneous Expense	77.69
Membership in Committee on Grassland Farming	10.00
FICA Taxes Refunded to Employees	23.37
Cash on Hand, December 1, 1954, Distributed to Income in December, 1954, and included in receipts above	3,695.80

TOTAL DISBURSEMENTS 78,118.11

BALANCE OCTOBER 31, 1955 \$14,915.57

ABOVE BALANCE ACCOUNTED FOR AS FOLLOWS

Cash in National Bank of Washington \$14,915.57

NOTE: The comments form an integral part of this statement.

"Exhibit C"

ENTOMOLOGICAL SOCIETY OF AMERICA
ENTOMA
STATEMENT OF RECEIPTS & DISBURSEMENTS
For the Eleven Months Ended October 31, 1955

EDITION 10

BALANCE DECEMBER 1, 1954 \$ 591.30

RECEIPTS

Book Sales	\$ 588.82
Less: Maryland Sales Tax	\$.11
Refunds and Overpayments	13.11
Net Sales	575.71
Less: Returned Checks	3.00
TOTAL RECEIPTS	\$ 572.71
TOTAL TO BE ACCOUNTED FOR	\$ 1,164.01

DISBURSEMENTS

Audit Fee	\$ 25.00
Commission	350.00
Express Charges	16.91
Secretarial Services	95.55
Stamps	85.00
Entomological Society General Fund	325.00
TOTAL DISBURSEMENTS	897.46
Balance October 31, 1955—Edition 10	266.55
TOTAL ACCOUNTED FOR	\$ 1,164.01

EDITION 11

BALANCE DECEMBER 1, 1954 NONE

RECEIPTS

Advance from Entomological Society of America General Fund	\$ 500.00
Book Sales, Advertising and Listings	731.00
TOTAL RECEIPTS	\$ 1,231.00
TOTAL TO BE ACCOUNTED FOR	1,231.00

DISBURSEMENTS

Art Work for Cover Page	15.00
Bank Service Charges	3.54
Stamps and Stamped Envelopes	222.20
Stationery, Advertising and Office Supplies	354.32
Stenographic Services	91.00
Telegrams	18.87
TOTAL DISBURSEMENTS	\$ 704.93
Balance October 31, 1955—Edition 11	526.07
TOTAL ACCOUNTED FOR	\$ 1,231.00

Balance—Edition 10	266.55
Balance—Edition 11	526.07

TOTAL ENTOMA BALANCE, OCTOBER 31, 1955 \$ 792.62

ABOVE BALANCE ACCOUNTED FOR AS FOLLOWS

Cash in Suburban Trust Company—	
Checking Account	266.55
Cash in Madison, Wisconsin Bank—	
Checking Account	526.07
TOTAL	\$ 792.62

NOTE: In addition to the above items, the following were received by the Entomological Society of America General Fund Treasury.

RECEIPTS

Received from Edition 10 Account	
(See Above)	\$ 325.00
Sale of Edition 10	497.49
TOTAL RECEIPTS TO GENERAL FUND	\$ 822.49

The above statement was prepared from information furnished without independent verification because of geographical distribution of original records; therefore, no opinion can be expressed as to its accuracy.

NOTE: The comments form an integral part of this statement.

"Exhibit D"

ENTOMOLOGICAL SOCIETY OF AMERICA
THOMAS SAY FOUNDATION
STATEMENT OF RECEIPTS & DISBURSEMENTS
For the Eleven Months Ended October 31, 1955

BALANCE DECEMBER 1, 1954 \$ 842.45

RECEIPTS

Interest on Savings Account	\$ 10.00
Sale of Books	424.49
TOTAL RECEIPTS	\$ 434.49

\$1,276.94

DISBURSEMENTS

Binding of Volume 1	166.40
TOTAL DISBURSEMENTS	\$1,110.54

ABOVE BALANCE ACCOUNTED FOR AS FOLLOWS

Guardian Federal Savings Association—Savings Account	\$ 1,110.54
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NOTE: The comments form an integral part of this statement.

RESOLUTION

by

RESIDENT INSTRUCTION SECTION, DIVISION OF AGRICULTURE, AMERICAN ASSOCIATION OF LAND-GRANT COLLEGES AND STATE UNIVERSITIES

(Passed at the Sixty-ninth Annual Convention, East Lansing, Michigan, November 14, 1955)

Regardless of when the training of a good college teacher should begin or how good teachers may be stimulated in their work, one place where students should receive stimulation for a teaching career and training is in graduate school and one place where the teacher may be stimulated to a better performance is in his professional society.

Individual members of the professional societies have, in many cases, recognized their responsibilities in regard to training teachers, and many of the nation's outstanding teachers may be traced back to the classroom or laboratory of some great graduate teacher.

The professional societies, too, have given recognition to the teacher in the affairs of the society, and this has tended to provide both stimulation to the teacher and balance to the society.

The Resident Instruction Section, Division of Agriculture, Association of Land-Grant Colleges and Universities, commends the professional societies and their members for the recognition they have given to teaching, especially in recent years. However, in spite of the progress that has been made, much still remains to be done. In spite of the fact that most of those entering Land-Grant College work from graduate schools will be given full- or part-time teaching jobs, there is still a marked tendency to ignore this and give consideration only to preparing the student to do research. Even where a student expects to devote his efforts entirely to research, more recognition should be given to the fact that many of the characteristics that make for a good teacher would be invaluable to the full-time research worker in explaining the nature and worthwhileness of his work to others.

In spite of the recognition that is given the teacher in some professional societies, there is still relatively little place for the teacher in other societies where the sections and programs tend to ignore him, leaving the teacher with the feeling that even though he is a member of the society he is attending somebody else's meeting.

Because of the opportunities that the professional societies have of stimulating good teachers, the Resident Instruction Section urges them to give the most careful attention possible to all means within their power of developing and stimulating good instructors.

REPORTS OF STANDING COMMITTEES FOR 1955

REPORT OF THE COMMITTEE ON INSECT SURVEYS

On invitation of Dr. A. S. Hoyt, Director, Crops Regulatory Programs, Agricultural Research Service, U. S. Department of Agriculture, the Committee on Insect Surveys met in Washington, D. C. on May 10, 11, and 12 with a full membership in attendance at and throughout all of the three-day session.

The meeting was held in collaboration with the members of the Economic Insect Survey Section in the Plant Pest Control Branch. It also coincided with a meeting of the four Federal Regional Survey entomologists, who were in attendance and took part in all discussions.

With respect to the latter, the Committee was indebted to Leo K. Iverson, Survey Entomologist, North Central Region, for the presentation of a most excellent paper prepared by him and R. T. Shotwell, Entomologist, European Corn Borer Laboratory, Cereal and Forage Insects Section, Entomology Research Branch, Agricultural Research Service, Ankeny, Iowa, showing tables establishing statistical formulae to be followed in conducting insect pest surveys; also to George Thomas, State Survey Entomologist for Missouri who presented an excellent paper on suggested methods of evaluating crop damage by insects. The Committee recommends that, because of the outstanding merit of these papers and the current need for such information, they be given all possible publicity through proper channels.

The Committee was meeting for the first time as a Standing Committee with Public Health and Forestry represented. Other agencies represented were state extension services, state experiment stations, state regulatory and control agencies, federal regulatory and control agencies, federal entomological research and industry, and included the head of Insect Identification and Parasite Introduction Section of the Economic Insect Survey Section of the U. S. Department of Agriculture.

Speaking for the Plant Pest Control Branch, Dr. Lee Popham stated that they were encouraged by the attitude of the states towards insect survey though difficulty was being experienced in working out uniform programs. Kelvin Dorward, Head of the Economic Insect Survey Section reported that to date his office had entered into cooperative survey agreements with 21 states and was prepared to include any other states which might so desire. These now covered include Rhode Island, Maryland, Virginia, North Carolina, Florida, Tennessee, Louisiana, Arkansas, Missouri, Minnesota, Illinois, North and South Dakota, Kansas, Texas, Wyoming, Arizona, Utah, Oregon, Idaho and Wisconsin. Ready for signing was Nebraska and Oklahoma, and being processed is California. Of the 21 agreements, the state portion of the financing comes from the State Experiment Station in seven states, from the Extension Service in three, from the State Regulatory Service in seven. In four states it is financed by a combination of the foregoing agencies. In all cases the financing is geared to the convenience and desires of the particular state. In some instances the survey entomologist may work under an agency other than that financing the program.

Under a working agreement the cooperating states assure the employment of full time competent survey personnel for specified periods each year for which federal reimbursement is received commensurate with the national benefits received but in no case exceeding \$5,000 annually. Such service requires weekly reports on local insect pest conditions involving direct field survey. He reported that the states so far signed are enthusiastic in their approach and have

materially increased the volume of information being submitted for inclusion in the Weekly Economic Insect Survey Report. Selection of the material to be used is becoming a problem without discouraging the source of submission. The number of pages annually has increased from 400 during the first year in 1953 to over 1,000 pages in 1955. This past year the report has included 36 annual state summaries of insect pest conditions.

Dr. Oman of the Federal Insect Identification Unit, reported that while 20 specialists were employed they represented less personnel than 15 years ago. At that time 12 to 15 percent of the material received for identification originated with the states and 50 percent with Bureau personnel. Today 40 percent originates with the states and only 20 percent with Branch organizations, the balance coming from other Federal or outside agencies. While additional specialists could be used, he stated that their employment would be inefficient until means could be found of attracting competent, much needed clerical-laboratory help at present disinterested in work of this sort. As the rapid expansion in insect survey might be expected to increase considerably the volume of material offered for identification, the Society might logically explore the possibility of rendering at least advisory assistance in meeting the situation.

General Committee discussions followed a pre-arranged agenda in which each member acted as leader in considering matters coming before the group. The conclusions reached appear to reflect the discussions so completely that there would seem little purpose in attempting to further amplify them.

It was unanimously recommended by the Committee that:

1. The Society take the lead in

- (a) calling public attention to our rapidly expanding population and to the importance of increased food needs. (It has been pointed out repeatedly that there is not available sufficient additional new land which can be economically farmed to meet this increased food need and that the remaining alternative to national food self sufficiency is in greater productive capacity per acre; that an important limiting factor in the net tonnage of food and feed available for consumption lies in the destruction of tremendous quantities of potential supplies by insect pests, plant disease, rodents, etc.; that the extent of the damage is presently unknown; that without this knowledge we are ill equipped to advise as to the nature, extent, and cost of measures necessary to reduce or eliminate any considerable part of this food and feed destruction by agricultural pests) and
- (b) in fostering research designed to discover practical methods of evaluating the extent of food and feed damage and loss attributable to agricultural pests. (If such a coordinated research effort cannot be achieved by combining the interest of federal and state entomologists, plant pathologists, rodent specialists, economists and others, much could be accomplished in the field entomology. A reliable figure as to losses properly attributable to pests would stimulate public interest in corrective measures.)

2. That the Society recommend to the National Research Council that they sponsor a pilot study aimed toward the development of a uniform coding system covering all biology, including entomology. (The proper coding of existing published information would make readily available much of that

needed to accomplish the objectives outlined in the following Sections 4(a) and (c).)

3. That the Society recommend to the Chief of the Entomology Research Branch, Agricultural Research Service, U. S. Department of Agriculture that:

- (a) more attention be given by workers to developing insect survey methods both at the federal and state level, and that
- (b) in collaboration with Directors of State Experiment Stations, consideration be given to means of correlating survey findings with damage, in forecasting population trends as an aid to timing control operations.

4. That the Society request the Director, Crops Regulatory Programs, Agricultural Research Service, U. S. Department of Agriculture to:

- (a) use existing information in bringing up to date Pierce's "Manual of Insects Liable to be Introduced into the United States" and make it available for distribution. (On the basis of information developed since its publication in 1918, this important and useful publication merits many deletions, corrections and additions in making it serve its intended purpose.)
- (b) attempt to make it possible for freer movement of U. S. entomologists abroad to permit their obtaining first-hand information on the life history and habits of pest species liable to be introduced into the United States.
- (c) make an effort to obtain from those having had foreign entomological experience, and summarize, information on insect pest species in other countries liable to be introduced into the United States.

5. That the Society ask the Head of the Economic Insect Survey Section, Plant Pest Control Branch, Agricultural Research Service, U. S. Department of Agriculture to:

- (a) determine and report back to the Committee how the latter can best obtain information on foreign insect pests
- (b) consider the inclusion of a Section in the Weekly Cooperative Insect Survey Report, covering the kind and abundance of important natural enemies of insect pest species.
- (c) consider the preparation for distribution of a check list of economic insect species, by scientific name, showing areas of occurrence (state, county or geographical area) and major type of host attacked (tree fruits, cereals, citrus, etc.).
- (d) determine and submit information on all pest species associated with stored agricultural products, in their respective areas, and that such information be coordinated and made available through the Weekly Cooperative Insect Survey Report.
- (e) make an effort to arrange for more trained personnel to be made available in providing leadership and guidance in insect survey.
- (f) consider presentation in the Weekly Cooperative Insect Survey Report of data covering major migratory insect pest species, or others which lend themselves to such handling, through the use of maps showing the weekly change in status indicated.
- (g) that in developing its expanded program of economic insect pest surveys steps be taken to see that all entomologists:

- (1) are made cognizant of the potentialities of biological warfare attacks on the United States, in which plant or animal pests, diseases, or disease vectors might be utilized;

- (2) train its full-time survey workers and closest cooperators to be on the alert to detect possible biological warfare attacks as differentiated from natural infestations; and

- (3) broaden the scope of its surveys by seeking the more active cooperation of such groups as veterinarians, mosquito abatement district operators, public health workers, forest workers and pest control operators, in supplying survey data in their specialized fields of endeavor but not necessarily limited to such fields.

6. The Society, through the BULLETIN, goes on record to recommend and ask:

- (a) all entomologists to make an effort to express all insect survey results in a uniform manner on a quantitative basis following as closely as possible procedures as prescribed in the manual of survey methods, and using forms issued by the Office of Insect Pest Survey, Plant Pest Control Branch, Agricultural Research Service, U. S. Department of Agriculture.
- (b) that the states make a concerted effort to advise lawmakers of the need and importance of insect pest survey.
- (c) state universities to consider establishing courses specifically pointed at training students in insect pest survey.

The Committee moves the adoption and proper channelling of these recommendations.

Respectfully submitted,

James A. Beal
Robert W. Every
Charles G. Lincoln
P. W. Oman
R. G. Richmond

Kelvin Dorward
D. W. Hamilton
W. E. McCauley
K. D. Quarterman
H. M. Armitage, Chairman

REPORT OF THE PROGRAM COMMITTEE

The program arranged for the Third Annual Meeting to be held at Cincinnati, Ohio, November 28-December 1 in effect constitutes the report of the Program Committee. In addition, the following brief résumé and recommendations are presented in the hope that they may prove helpful to future committees.

Procedures Followed in Developing Program. In order to sample opinion of Section and Subsection officers regarding preferred general features of the program, all officers were invited by circular letter to express opinion on the number and nature of planned programs for the Society as a whole. Sections and Subsections were extended the privilege of arranging one planned program each, not to exceed 3½ hours. Sections A, B, C, and E arranged planned programs. The programs for Section E are entirely of that nature, those for remaining Sections include sessions for reading of submitted papers as well. Section D arranged for two invitational papers that were used to lead off paper reading sessions dealing with generally related topics. Similar arrangements were adopted to handle invitational papers in Section B and Section C, Subsection d.

Although the deadline for receipt of papers for the Cincinnati meetings was September 15, all papers

received through September 23 were included in the program. As of October 28, requests for the inclusion of 15 additional papers had been received from 13 individuals. In a few instances it was stated that notification regarding the meetings had not been received.

All sessions for reading of submitted papers on the program are timed and scheduled. Authors were notified by mail of the day and time for which their papers were scheduled.

Recommendations. The following recommendations are made in the interests of facilitating development of future programs for the Annual Meeting.

1. Establish a permanent deadline date for receipt of program material. Inasmuch as a synopsis of the program must appear in the September issue of the BULLETIN, mid-September appears to be the latest practical date for this information to be in the hands of the Program Committee chairman.

2. Encourage increased interest in the Society as a whole at the Annual Meeting. This might be in part accomplished by arranging two full half day programs for the Society, as was done at the Los Angeles Meetings, with subject matter of sufficiently broad interest to attract all Sections. Another possibility would be to ignore the Sectional organization in the programming of the meeting, titling all sessions on a broad subject matter basis without reference to the Section or Sections primarily responsible for the particular program.

3. Provided sentiment of the membership attending meetings favors the system, conduct all paper reading sessions on a timed and scheduled basis.

4. Require Section officers (or presiding officers) to report to the Executive Secretary, following each Annual Meeting, the approximate maximum number in attendance at each program session. Such information will be of great value in working out space requirements for subsequent meetings, even though attendance will be influenced by the nature of the program presented.

5. Change the Program Committee from a standing committee to a presidential committee. Appoint all members of the Program Committee for a given year from the same general area. Frequent discussion during the course of program planning is highly desirable, and occasional meetings would materially expedite the work. Continuity of membership on the Committee has little practical value if the members are widely scattered geographically. It is felt that sufficiently representative membership of the Committee can be obtained at most major entomological centers by appointing representatives of universities and Federal and commercial organizations. At least one of the Committee members should have adequate stenographic assistance available.

Respectfully submitted,

C. C. Alexander
R. C. Bushland
P. W. Oman, Chairman

REPORT OF THE COMMITTEE ON INSECTICIDE TERMINOLOGY

The list of Common Names of Insecticides compiled by this Committee and approved at the last (1954) meeting of the Society was published in the February 1955 issue of the JOURNAL, and a few minor changes appeared in the June issue.

Your Committee has had many requests for copies of this list, and several hundred copies have been run off to meet such requests. The Executive Secretary of the Society has given permission for it to be included in the next issue of ENTOMA, and an introduction suitable for use in this directory was prepared.

Early in the year the Committee's attention was called to the fact that some confusion had arisen with "Sulphenone," the trade name for the product containing *p*-chlorophenyl phenyl sulfone and related sulfones, since a different type of product, Sulfenone, was also on the market. Therefore, in the June issue it was requested that the designation "R-242" be used instead. Recently the Committee has been advised by the Stauffer Company that it has acquired the exclusive right to the name "Sulphenone," and now recommends that it be used for this chemical. The Committee has approved this request.

The previous list gave "Ovotran" as the name to be used for the product containing *p*-chlorophenyl *p*-chlorobenzenesulfonate. Since this is a trade name of the Dow Company and other companies are now making this insecticide, the name "ovex" has been suggested, and we recommend that this name be used.

During the year several additional compounds have been shown by experiments to have sufficient usefulness as insecticides to justify using the designations given to them without definitions. These materials, together with those for which changes have been indicated since the last list was issued, are included in the accompanying supplemental list. It will be sent to the JOURNAL with the request it be published in the February 1956 issue.

The Committee, upon request, considered the advisability of using uniform units of measurement (either English or metric units) in JOURNAL articles. The conclusion was reached that either of the two systems are acceptable and both may be used in giving the composition of a formulation so long as the quantities used are clearly stated.

Respectfully submitted,

C. O. Eddy	G. S. Kido
A. B. Lemmon	C. C. Roan
M. C. Swingle	H. L. Haller, Chairman

REPORT OF THE COMMITTEE ON COMMON NAMES OF INSECTS

During 1955 the Committee considered 87 proposals for additions to the Official List of Common Names and 2 proposals for changes in names already on the list. Sixty-four of the proposals were approved and 25 were published in the September number of the BULLETIN and have since been added to the Official List. The remaining 39 proposals will be published in the next number of the BULLETIN.

On January 1 approximately 100 proposals were on hand awaiting committee action. Most of these were processed, but because of additional proposals received during the year the backlog remains about the same.

The much postponed new edition of the Official List is now in manuscript and will be published in the December issue of the BULLETIN. Basically it is a reprint of the 1950 List prepared by C. F. W. Muesebeck. All technical names have been checked by specialists and names proposed and approved since 1950 have been added. One important innovation is the addition of a section showing technical names for phylum, class, order, and family. Where available, common names for the different groups are shown and by means of a code reference system the order and family for any species included in the list can be easily and quickly found.

Respectfully submitted,

H. O. Deay	A. E. Michelbacher
D. E. Hardy	A. V. Mitchnes
L. C. Kuitert	D. E. Parker
J. L. Laffoon	J. B. Schmitt
	Reece I. Sailer, Chairman

REPORT OF THE COMMITTEE ON MEMBERSHIP

During the past two years the major effort of the Membership Committee has centered around the assembly of a complete list of entomologists working in the United States. The country was divided into six regions, each of which was assigned to a committee member with the request that department heads, local and state entomological societies, pest control agencies, and other groups be canvassed for names of entomologists. When this list was completed in September, 1955, comparison was made with the official membership list and the names of some 850 non-members were obtained. A letter outlining the Society's many activities and the advantages of membership was mailed to this list early in October.

At about the same time a letter was addressed to department heads and other administrators in entomology, urging them to bring the matter of Society affiliation to the attention of their staff and graduate student groups. Copies of both letters are attached.

It is expected that results of the membership drive will be apparent by late November and can be included in this report during the Cincinnati meetings.

During the year 362 applications for membership were received and processed. We submit these applicants for admission to membership in the Society.

Respectfully submitted,

Sherman W. Clark	George Jones
A. F. Kirkpatrick	Randall Latta
Herbert Knutson	H. H. Schwardt, Chairman

REPORT OF THE COMMITTEE IN INSECTICIDE REFERENCE STANDARDS

In accordance with the resolutions passed during the final business meeting of the ESA on December 9, 1954 (See BULL. ENT. SOC. AM. 1(1):4-5), the Committee on Insecticide Reference Standards completed the transfer of the ESA Insecticide Reference Standards to the Nutritional Biochemicals Corporation, 21010 Miles Avenue, Cleveland 28, Ohio.

The Nutritional Biochemicals Corporation announced the prices of the various standards in August 1955. Their announcement reads as follows:

"ESA Insecticide Reference Standards, exclusively distributed with the approval of the Entomological Society of America.

DDT (Tech.), 100 gram bottle	\$1.25
Chlordane (Tech.), 60 ml. bottle	1.25
Toxaphene (Tech.), 100 gram bottle	1.25
Parathion (Tech.), 90 ml. bottle	1.25
Methoxychlor (Tech.), 50 gram bottle	1.25
Lindane, 50 gram bottle	1.25
Complete set—6 insecticide reference standards, 1 each of above sizes, \$7.00."	

The Committee is currently investigating the addition of new standards and is planning to have them available for sale by Nutritional Biochemicals the early part of next year.

A sum of \$290.64 was paid to the ESA by the Wisconsin Alumni Research Foundation. This sum may be itemized as follows:

Sale of ESA Insecticide Reference Standards by Wisconsin Alumni Research Foundation, balance on hand 10-17-55	\$185.52
Transfer and sale of Standards to Nutritional Biochemicals Corporation, \$120.15 less \$15.03 freight charges	105.12
	<hr/> \$290.64

Since the Standards Program will be a non-profit venture for the ESA, the above transaction terminates all financial obligations of the ESA with the Wisconsin Alumni Research Foundation and Nutritional Biochemicals Corporation.

The financial reports for the sale of the Standards by the Wisconsin Alumni Research Foundation have been presented previously in the Proceedings of the Annual Meeting of the AAEE, and more recently the ESA.

Respectfully submitted,

F. W. Fisk
E. E. Ivy
Y. P. Sun
G. S. Kido, Chairman

REPORTS OF EDITORIAL BOARDS FOR 1955

REPORT OF THE EDITORIAL BOARD OF THE ANNALS OF THE ENTOMOLOGY SOCIETY OF AMERICA

During the past year the major duty of members of the Editorial Board has been to review manuscripts at the request of the Editor and to solicit outstanding manuscripts.

The Board is agreed:

1. that a continuous effort should be made to improve the quality of papers appearing in the ANNALS;
2. that the ANNALS should present a distribution of papers giving fair representation to the Sections concerned (A,B,C,D);
3. that the practice of giving concessions to any one subject is not one which should become established;
4. that the most critical immediate problem is the existing backlog of accepted manuscripts;
5. that the office of the Editor is operating efficiently and that the Society is fortunate in having Dr. James as Editor.

The problem of a backlog of accepted manuscripts is not a new one. It is, however, a very serious problem. Publication delay is a major obstacle to continuing the improvement in the quality of papers appearing in the ANNALS. Because more rapid publication can be obtained elsewhere some outstanding entomologists are reluctant to submit their manuscripts to the ANNALS. Certainly this situation is true for Insect Physiology and Medical and Veterinary Entomology. It is likely true in all fields. If the cream of the crop is lost the general level of quality of papers appearing in the ANNALS is depressed. Unless the ANNALS gains the reputation of having the best papers in all fields covered the best papers will be submitted elsewhere. This view is not meant to imply that papers appearing in the ANNALS have been of poor quality. Many excellent papers have been published, but there is still room for improvement.

It is gratifying to find that some inroad is being made on this backlog. The new format and the increase from four to six issues per volume have been a big help. A somewhat more rigid selection of manuscripts has been made during the past year. However, there is still a minimum delay of from

nine months to one year between acceptance of a manuscript and its appearance in print. A further reduction in this delay is a necessity. The possibility of a vicious circle developing must not be overlooked, for if more good manuscripts are attracted the backlog may again increase.

The Board wishes to emphasize that its immediate concern is with the publication of *accepted* manuscripts. Delays in securing acceptance due to the extensive editing frequently required are problems for the individual authors. During the year members of the Board have turned back to authors a number of manuscripts which could not be considered for publication without extensive revision. It is not the duty of the Editor or his assistants to rewrite manuscripts. Each member of the Society or any other person submitting a manuscript has a responsibility to ensure that his paper is well-written regardless of technical content. Unfortunately, it appears that not all authors assume this responsibility. The frequent tendency to submit a thesis without the degree of revision usually necessary for publication is deplored.

Not infrequently manuscripts are submitted with a stamp of approval from a recognized authority in the particular subject. These approvals sometimes relate only to the technical content of an article with disregard for the organization and composition.

No single cure for the existing situation with respect to delays in publication is readily apparent. One member of the Board has suggested that, in general, papers dealing with insects of economic importance should be published in the *JOURNAL* rather than in the *ANNALS*, even though the particular aspects of the insect's biology concerned may not be of direct economic importance. A modified suggestion is that in general priority should be given to papers dealing with insects of no economic importance. It is doubtful if this suggestion would find wide support. However, it does seem probable that gradually a division of labor between the two publications of the Society might be agreed upon in more definite terms than at the present time.

Another question arising concerns the publication of papers submitted by non-members. It is understood that in practice the *JOURNAL* accepts only papers submitted by members of the Society. The Board feels that any excellent article of suitable content should be published in the *ANNALS*. Other things being equal priority should be given to manuscripts submitted by members. Every opportunity should be taken to urge non-members to join and thus to strengthen the Society.

The problems confronting the *ANNALS* are in no way peculiar. Rather these problems are part and parcel of the overall current situation with respect to dissemination of technical information. As was pointed out in an editorial in a recent issue of *SCIENCE*, we are living in an atomic age but our communications system is a beating of tom-toms. No one solution to the problem of dissemination of ever increasing amounts of technical information has been proposed. There is, however, reason to believe that possibly the present system of innumerable journals is rapidly becoming outmoded.

The following concrete proposals and recommendations are submitted for consideration by the Governing Board:

1. The Editorial Board of the *ANNALS*, in consultation with the Editor, should agree on the ideal space requirements for the *ANNALS*. The Governing Board would have the responsibility of deciding on the practicality of attempting to achieve this ideal.

2. It is recommended that, whether or not any further expansion is feasible in the near future, consideration should be given to a temporary expansion

which would permit clearing the existing backlog. This move would enable the Board to woo back into the fold members who are publishing elsewhere.

3. It is suggested that the Governing Board should through its section officers or by other means take all possible steps to sell to the membership the necessity of research workers being concerned not only with the quality of their work per se, but equally with the preparation of manuscripts of high calibre with respect to use of the English language.

4. The Board requests that the Governing Board extend to the Editor of the *ANNALS* an expression of confidence and gratitude for a job being well-done.

Respectfully submitted,

L. E. Chadwick
R. I. Sailer
M. H. Hatch
H. T. Spieth
A. S. West, Chairman

REPORT OF THE EDITORIAL BOARD OF THE JOURNAL OF ECONOMIC ENTOMOLOGY

During the past year the editorial committee has worked closely with Editor F. W. Poos in considering the most suitable format for the new *JOURNAL* and in endeavoring to formulate a consistent editorial policy regarding the type of publication to appear in the *JOURNAL*. It is gratifying that response to the new format is almost unanimously enthusiastic. Matters which have been considered are (a) prior publication of scientific papers in farm and trade journals, (b) publication of review papers, and (c) question of obligatory membership in the society for prospective authors. The editorial committee has also reviewed a number of manuscripts at the suggestion of Editor Poos, and the chairman has contributed an editorial to the *JOURNAL* dealing with editorial matters.

The committee has enjoyed the most cordial relations with Editor Poos and wishes to commend him for the excellent job which he is doing.

D. E. Howell
G. E. Bohart
F. S. Arant
E. L. Chambers
R. L. Metcalf, Chairman

REPORT OF THE EDITORIAL BOARD OF ENTOMA

The eleventh edition of *ENTOMA* covering the years of 1955-56 should be ready for distribution early in 1956.

Dr. E. H. Fisher, editor of *ENTOMA*, informed us on October 5, 1955, that all advertising plates were on hand and listings had been typed into copy ready for the printer. As of this date, two authors had failed to submit their contributions for the introductory part of *ENTOMA* but Dr. Fisher hoped to receive these manuscripts soon. The printer has scheduled his work so as to begin with *ENTOMA* on October 10.

For the eleventh edition, the same advertising rates were used as for the previous edition, i.e., full page, \$65.00; half page, \$38.00; quarter page, \$24.00. An extra charge was made for ads placed in preferred positions. A new innovation for the eleventh edition was the charge for listings which

are in a way simplified advertising. This charge amounted to one dollar for the first and 25 cents for each additional listing. The importance of this charge becomes evident when one realizes that listings amount to as many as 250 for a single company. Concerns which purchase a quarter page or more for advertising are not charged for their listings.

Prior to publication, Dr. Fisher plans to send a card to all members of the E.S.A. soliciting orders for ENTOMA. Additional announcements will be sent to people in the chemical industry and other interested parties in an attempt to sell as many of the 5,000 copies as possible. Members are to be charged \$1.00 and non-members \$2.00 with all proceeds going directly to Dr. Fisher at Madison.

On October 26, 1955, Dr. E. H. Fisher submitted a financial statement to the Executive Secretary, showing \$1,231.00 receipts and \$704.93 disbursements. See elsewhere in this issue of the BULLETIN.

Respectfully submitted,

A. W. Morrill, Jr.
C. C. Alexander
J. B. Steinweden
M. P. Jones
James W. Apple, Chairman

Entoma Edition 11

Dr. E. H. Fisher, Editor of ENTOMA, announces that the 11th edition will be ready for distribution about April 1. The value of this publication has been established by past editions. The 11th edition will contain about 400 pages of the latest information available in a directory of insect and plant pest control. The book can be obtained in cloth binding for \$3.00. Paper bound copies will be sold to members of the Entomological Society of America for \$1.00 and to all others for \$2.00 per copy. These prices are postpaid. All orders are to be placed with Dr. E. H. Fisher, Editor of ENTOMA, King Hall, Department of Entomology, University of Wisconsin, Madison 6, Wisconsin.

REPORTS OF REPRESENTATIVES TO SCIENTIFIC BODIES FOR 1955

REPORT ON JOINT COMMITTEE ON GRASSLAND FARMING

Following a review of the Governing Board of the Society in Houston, Texas, of the objectives and actions of the Joint Committee on Grassland Farming, it was decided that the Society should continue its cooperation with the Committee, including continuation of negotiations for their meeting in conjunction with the Society at the Cincinnati Meetings. This suggestion was activated and arrangements developed by the Committee for scheduling a speaking program during the progress of the Society Meetings. It is expected that the closer association of the two groups at this meeting will encourage a better appreciation of the relationship of entomological problems in the grassland program among their members.

The Grassland Committee has recognized the need for more active participation of cooperating member organizations to further its interest in the advancement of grassland agriculture. At a conference of cooperating member organizations at Louisville, Kentucky, on February 10, 1955, it was suggested that special grassland events be developed as part of annual or regional meetings of the organizations. In developing this action, the Operating Executive Committee members are in position to suggest speakers for definite topics who enjoy a good reputation of being well informed, have demonstrated public speaking ability, and who are willing to participate in important meetings as a public service.

The further development of these suggestions in future entomological meetings should aid materially in supporting entomological programs related to grassland farming and consequent benefit to grassland production.

Respectfully submitted,

W. A. Baker, ESA Representative

REPORT OF THE REPRESENTATIVE TO THE NATIONAL RESEARCH COUNCIL, DIVISION OF BIOLOGY AND AGRICULTURE

The annual meeting of the Division of Biology and Agriculture was held May 13-14, 1955 at the National Academy of Sciences. An evening session was concerned with several talks on popularization of science.

Several of the numerous activities of the Boards and Committees in the Division are of interest to entomologists.

The first edition of the Handbook of Biological Data will appear in early 1956 and will include entomological data on biochemistry, physiology, life histories, genetics and control.

Objectives of the reactivated biological council in the Division will include the efforts to recruit high school teachers and to encourage high school students to take up careers in biology; also to provide equipment and instructions to technicians in specialized branches of science.

The Institute of Animal Resources, under the chairmanship of Dale Jenkins, is considering ways of increasing supplies of Rhesus monkeys for polio vaccines; also with the availability of laboratory insects and mites.

A subcommittee on pesticides in the Food and Nutrition Board is concerned with the chemical residues on foods.

Another subcommittee in this Section is concerned with carcinogens in foods including pesticides. A special committee was recently appointed by the Academy under the Miller Bill to study the evidence on health hazards from Aramite. Of great significance was the acceptance of this committee's report which formed the basis for establishing a tolerance for Aramite on certain food crops.

Progress was reported on the organization of the Committee on Agricultural Pests which includes sub-

committees on insects, plant diseases, nematodes, rodents, and weeds.

The American Institute of Biological Sciences which was recently separated from the Division of Biology and Agriculture, is completing the national register of scientific personnel including entomologists, without cost to our Society.

Respectfully submitted,

Floyd F. Smith

REPORT OF THE REPRESENTATIVE TO THE AGRICULTURAL RESEARCH INSTITUTE

The Agricultural Research Institute was organized to lend encouragement and financial support to the activities of the Agricultural Board of the National Research Council.

The Fourth Annual meeting of the Agricultural Research Institute-Agricultural Board was held October 17-18, 1955 at the National Academy of Sciences. The Institute is at present composed of representatives from 57 industrial organizations and from 89 Scientific Societies, Experiment Stations, universities, and government agencies and shows a considerable increase in both Class A and B members during the past year.

The program consisted of addresses on (a) Basic Research in the Plant Sciences in Relation to Agriculture, which emphasized among other things the development of varieties more tolerant of heat and drought; (b) problems of the Civil Defense Advisory Committee in working out precautionary measures to protect foods from saboteurs; (c) need for new industrial uses for farm products; (d) reports of committees in the Agricultural Board; (e) an address on Federal-States Relations and (f) a symposium on culture and uses of corn.

The Projects and Proposals Committee classified the 200 proposals submitted by ARI members and referred them to appropriate committees in the Agricultural Board. The Proposals Committee emphasized the need for high school students to get courses in basic sciences to prepare them for college studies and careers in Agriculture and Biology. The committee also proposed that ARI should support research of basic and daring nature and less on projects of practical nature.

The newly organized committee on Agricultural Pests under chairmanship of George Decker includes subcommittees on nematodes, plant diseases, insects, weeds and rodents. The committee received 46 specific proposals for projects from the Projects and Proposals Committee.

The ARI also sponsored a conference of Industry, State and Federal workers on the evaluation and application of pesticides and the safety of their use.

Respectfully submitted,

Floyd F. Smith

REPORT OF THE REPRESENTATIVE TO A.A.A.S. COUNCIL

I wish to report in my capacity as representative of the Entomological Society of America on the Council of the American Association for the Advancement of Science. I attended the two council meetings at the sessions on December 27 and December 30 and marked my agenda sheets in such a way that it should be clear what action was taken. I am enclosing these agenda sheets at this time (on file in central office).

Presumably, this should suffice as a report for purposes of presentation at the annual business meeting of our Society.

Respectfully submitted,

Robert L. Usinger

REPORTS OF SPECIAL COMMITTEES FOR 1955

REPORT OF THE COMMITTEE ON SUSTAINING ASSOCIATES

As of October 31, 1955, 43 companies had become affiliated with the Society as Sustaining Associates. Fees paid in totaled \$4,400.00. We are advised by other professional societies having this class of membership that this represents a good first year response. While the idea of obtaining funds in this way has not met with universal approval, the plan, in general, has been favorably received both by Society members and by industry.

The Committee recommends the continuation of a full program of solicitation for additional Sustaining Associates at least through 1956. We recommend, however, that the present Committee be replaced with Branch Sustaining Associate Committees appointed by each Branch Chairman. Chairmen of these Branch Sustaining Associates Committees would serve on a national coordinating committee of which one member would be designated by the President as chairman. The Executive Secretary would serve as an ex-officio member of this national committee. Governing Board action is requested on the foregoing proposal. Based on the experience of other societies, the amount of effort needed to secure additional Sustaining Associates and to retain old ones is apt to diminish considerably after the second year. It is possible, therefore, that most of the work needed after 1956 could be centered in the Business Office with the aid of a Sustaining Associates Advisory Committee composed of one member from each Branch. The present Committee recommends

consideration of this plan by the Governing Board at the end of 1956.

As mentioned above some members have raised questions as to the desirability of obtaining funds through Sustaining Associates fees. These persons take the position it might be preferable to raise the additional funds needed by increasing regular membership dues, or the charges for the Journals, or the price of Journal reprints, or through some combination of these three means. Several members also suggested the adoption of a graduated fee for Sustaining Associates based on the volume of business done by the affiliate. The Committee requests that the Governing Board give consideration to the fee change suggested and re-examine and restate its position on Sustaining Associate memberships.

Respectfully submitted,

A. W. Buzicky
Roy E. Campbell
E. W. Laake

A. A. LaPlante
Clyde F. Smith
P. J. Chapman, Chairman

REPORT OF THE COMMITTEE ON INDICES TO THE LITERATURE OF AMERICAN ECONOMIC ENTOMOLOGY

Work on the Index to the Literature of American Economic Entomology has been continued along the lines indicated in the last report. The growing multiplicity of cross references required in the chemical sections of the Index has made it necessary, however, to find some method of preventing the actual cita-

tions from becoming submerged, and of avoiding costly duplication. Beginning with Index XIV (1954) the cross references to chemical terms will appear as a unit at the end of the volume. Each page of the text sections relating to chemicals will carry a footnote referring readers to that cross reference list.

Status of the Indices for 1952 to the present:

Index XII (1952)—Published December 1954.

Index XIII (1953)—Published October 1955.

(This index was ready for the printer January 17, 1955, but in consequence of changes in the business office of the Society the contract was not let until August 1955).

Index XIV (1954)—Typing in progress. Should be ready for the printer early in 1956.

Index XV (1955)—Indexing in progress.

It is disturbing to the Committee that the sale of the Indices has been so slow. The literature on American Economic Entomology continues to increase from year to year, and the annual output has now become so voluminous that without intelligently prepared indices the reported findings would be virtually buried and unavailable to those who need to consult them. In the interest of fuller utilization of the records of accomplishments in this field, it is hoped that the Indices will be in increasing demand. We understand that recent publicity from the Secretary's office has resulted in some increase in sales. We urge that this effort be extended.

Respectfully submitted,

Ina N. Hawes

B. A. Porter

C. F. W. Muesebeck, Chairman

REPORT OF THE COMMITTEE ON FINANCES

It is necessary to start this report with an apology in behalf of your Chairman. Personal matters prevented him from giving the work of the Committee the attention that it deserved. Fortunately, the financial affairs of the Society have steadily improved in spite of the comparative inactivity of the Chairman.

Preliminary figures indicate that our 1956 budget should be in balance. That is, we can continue on our present basis without further deficits. This balanced condition is the result of efficient management on the part of our Executive Secretary, and the effective work of several committees, notably the one on Sustaining Associates and the one on Membership. Both have been adding steadily to the financial strength of the Society. Several items should be mentioned specifically.

Dues

At the beginning of the year it appeared that perhaps dues should be increased. Fortunately, the present favorable state of our finances makes it unnecessary to take any hasty action in this matter. Dr. Apple has assembled information on the cost of membership, both dues and publications, in a number of scientific organizations more or less comparable with ours. The results of his survey are included in the accompanying mimeographed sheet. It is evident that the Entomological Society of America occupies more or less medium position in the matter of costs. A modest increase might ultimately be desirable, but in this matter we can afford to make haste slowly. We recommend that no action be taken to change dues at the present time.

Publications

Journal and Annals

Because of postal regulations it was found necessary on short notice to increase the cost of member subscriptions to the JOURNAL and the ANNALS from \$4.00 to \$6.00. For most members this involved no increase in total costs, but was accomplished by a bookkeeping reapportionment of the \$10 paid annually for membership, plus BULLETIN and either ANNALS or JOURNAL. The only persons affected are those who subscribe to both JOURNAL and ANNALS. For them total cost was increased by \$2.00 a year.

Indices

The progress made during the past year in the matter of indices is covered by a report of the Index Committee. The Finance Committee is disturbed over the small number of recent indices that have been sold, but we are encouraged by the first results of the efforts of the Executive Secretary to stimulate an increase in sales. We believe that the indices are necessary and useful, in fact indispensable, and that the Society should underwrite part of their cost if necessary, as a service to the profession. However, some action to improve the situation may ultimately be necessary. It is recommended that the matter be given further study after there has been more time for the results of the Secretary's efforts to stimulate sales become evident.

Although the financial outlook looks encouraging, this is no time to be complacent. Costs are steadily increasing. We might on short notice be obliged to rent office space (present space is free). Printing costs are still climbing and any change in printing contracts for any of our publications may mean a considerable increase in costs. The reserve stocks of back numbers of the JOURNAL and ANNALS, Indices and other items should be brought together in adequate fireproof storage in the Washington area where they will be accessible and can be properly cared for.

One possible means of increasing our financial resources has been suggested by Neely Turner in an editorial in the October JOURNAL. This consists of increasing the price of reprints and the stimulating of more extensive buying of reprints by employing agencies. This matter is discussed in a separate report.

Respectfully submitted,

F. L. Campbell

J. W. Apple

B. A. Porter

Reprints

Your attention is called to the Separate Report of the Committee on Finances beginning on the following page. The revised price schedule for reprints, which applies to both the JOURNAL and the ANNALS, was published in the BULLETIN volume 1, number 4. The new prices apply to papers accepted after January 1, 1956. Authors can determine, by noting the date of acceptance on galley proof, whether the former price schedule, Jour. Econ. Ent. 48(1): 115-117, or the revised schedule noted above applies. Authors are urged to interest the agency in which they are employed in buying a supply of reprints. When an author's order for personal reprints accompanies or is referred in writing to an institutional order of 100 or more copies, he not only received the 50% discount as noted on the new schedule, but pays for his reprints on the additional 100's rate as well. The additional 100's point also applies to the old price schedule.

A COMPARISON OF CERTAIN CHARGES BY E.S.A. WITH THOSE OF OTHER SOCIETIES

Society	Publication	Members	Literature Issues	Year Pages	Dues ¹ Member	Student ²	Nonmember Subs.	Reprints 4 pg.—100 copies
E.S.A.	Journal Annals	3300	6 4	1100 700	10.00	6.00	12.00 ³ 10.00	10.70 ⁴ 10.70
Am. Phytopath. Soc.	Phytopath.	1750	4	800	8.00		14.00	30.27
Am. Soc. Animal Prod.	Jour. Animal Sci.	1344	4	1050	5.00		6.00	26.00
Am. Dairy Sci. Assoc.	Jour. Dairy Sci.	1700	12	1400	10.00	5.00	15.00	20.00
Am. Soc. Agr. Eng.	Agr. Eng.	4489	12	850	15.00		4.00	13.40
Am. Soc. Agronomy	Agronomy Jour.	2400	12	700	15.00	11.00	15.00	11.00
Soc. Am. Bact.	Jour. Bact.	5096	12	1500	12.00		14.00	10.05
Poultry Sci. Assoc.	Poultry Sci.	1087	6	1300	9.00		12.00	5.50
Am. Soc. Pl. Physio.	Plant Physio.	1200	4	800	8.00		14.00	5.25
Bot. Soc. Am.	Am. Jour. Botany	1900	10	850	7.50	5.00	10.00	cost
Am. Soc. Biol. Chem.	Jour. Bio. Chem.	1100	12	6000	7.50 (Jour. + \$36)		36.00	?
Am. Vet. Med. Assoc.	Jour. A.V.M.A.	12000	12	500	20.00		10.00	?
Inst. Food Tech.	Food Tech.	4000	12	600	7.50	2.50	8.50	cost

¹ Includes publication.

² Absence of student dues means same charge as regular member.

³ Effective in 1956.

⁴ It might be pointed out that publication costs for JOURNAL ECON. ENT. average about \$25 per page.

SEPARATE REPORT OF THE COMMITTEE ON FINANCES

REPRINT SALES FOR REVENUE

The October 1955 JOURNAL carried an editorial by Neeley Turner, urging that the agencies by which our members are employed be expected to carry a bigger share in the cost of publishing the results of research. He proposes as one means of securing increased support, a plan similar to the one followed by the American Phytopathological Society with their publication, *Phytopathology*. Under this plan, reprints of papers published in *Phytopathology* are priced high enough to yield a material profit. The basis on which this action was taken was a belief that publication should be looked upon as part of the research process and should be paid for to a large extent by the agency conducting the research. By adopting a scale of prices for reprints that allowed a wide profit margin, and by urging all authors to convince the agency with which they are employed that a supply of reprints should be bought (at a cost still considerably cheaper than publication by the agency itself), the American Phytopathological Society has considerably increased its revenues.

A comparison of the prices of reprints from *Phytopathology* with present prices of JOURNAL reprints is given in the following tabulation. Formats are similar enough to permit reasonably good comparisons. The *Phytopathology* price list covers reprints only up to 16 pages.

Reprint pages	Comparative Costs			
	For 100 reprints		For extra 100's	
	<i>Phytopath</i>	Journal	<i>Phytopath</i>	Journal
1	\$ 9.93	\$	\$ 0.70	\$
2	16.63		0.70	
3	24.14		0.80	
4	30.27	10.70	0.80	2.10
5	41.51		1.40	
6	47.64		1.40	
7	53.77		1.40	
8	59.90	15.30	1.40	4.20
9	70.81		2.00	
10	76.94		2.00	
11	83.07		2.00	
12	89.20	18.30	2.00	6.60
13	99.64		2.75	
14	105.77		2.75	
15	111.90		2.75	
16	118.03	22.05	2.75	7.50

It will be noted that *Phytopathology* reprints, of multiples of 4 pages, cost 3 to 5 times as much as those from the JOURNAL. However, the extra hundreds of the former cost less than those of the latter—less than actual printer's cost of extra hundreds of JOURNAL reprints. *Phytopathology* reprints are quoted by the exact number of pages involved; the Journal reprints are quoted in units of 4 pages.

This plan seems to have been most successful. The following statement appeared in the report of the 45th annual meeting of that Society (*Phytopathology*, Vol. 44, 552, January 1954): "In 1952, *Phytopathology* increased the charges for reprints as a means of offsetting part of the cost of printing the journal. Despite the reluctance of a few institutions to purchase reprints at the new rates, institutions and authors purchased reprints of 169 of the 179 technical articles published during the period covered by this report." A financial report published in December 1954 (*Phytopathology*, Vol. 44, p. 720) showed receipts for "Reprints and Excess Illustrations" of \$6,018 and expenditures for reprints of \$1,815.

JOURNAL reprints are now being sold at a markup of 50 to 60 percent above printer's charges. Although this seems to be a fairly wide margin, it is probably not more than enough to cover office and handling costs. If the reprints are to be a material source of income to the Society, a considerable increase in prices would be in order. We therefore recommend that the Society increase its reprint prices to non-members to about double present prices.

We believe that any increase should apply only to non-member purchasers, and that the cost to members remain about the same. For practically all of its publications the Society maintains two sets of prices, one for non-members and a considerably lower figure as the price for members. The Committee recommends that the Society adopt this practice for its reprint prices, and members be given a suitable discount from prices quoted on reprints to non-members.

Attached is a proposed revision of the scale of prices for JOURNAL reprints. (Editor's Note: The proposal was adopted by the Governing Board and the schedule published in the December 1955 BULLETIN.) These are approximately double present prices, although the figures have been rounded off to the next lowest 25-cent multiple. Minor adjustments have also been made to approximately equalize the

differences between successive units. These prices are considerably below those now charged for reprints of *Phytopathology* papers (except papers of only 1 or 2 pages). With a 50 per cent discount, reprints bought by members would cost them about the same as before—slightly less in some cases.

Since the formats are now similar, and costs are not radically different, it is recommended that the same prices be adopted for ANNALS reprints.

If this plan is adopted, we have two further recommendations:

- (1) When sent to authors, the proof should be

accompanied by a statement urging that they prevail on the agency by which they are employed to buy a supply of reprints, and

- (2) The new prices should be announced several months before they are to become effective, in order to avoid any complaint that higher prices have been sprung on buyers without warning.

Respectfully submitted,

F. L. Campbell

J. W. Apple

B. A. Porter, Chairman

REPORTS OF REPRESENTATIVES OR DELEGATES TO SPECIAL FUNCTIONS IN 1955

I.

I attended the meetings of the European Committee of the International Congresses for the Control of Plant Pests, at Mondorf, Luxembourg Sept. 6-9 as delegate of the ESA and by request of the Entomology Research Branch of the USDA also.

Mr. B. Trouvelot, the organizer and mainspring of the meetings, informed me that these meetings were conceived with the idea of simple "get-togethers" for discussions and personal contacts somewhat on the order of our "Cotton-States Entomologists," and "Western States Entomologists" meetings.

There were about 250 people present, representing principally France, Belgium, Holland, Switzerland, and Spain. No English were there as official delegates, but there were several representatives of commercial concerns.

Several general addresses were of interest, principally the ones by Rene Fabre, Doyen of the Faculte de Pharmacie of the University of Paris on Toxicology, one by Weisman of Geigy Co., on new factors in insect resistance to insecticides, one on color photography (illustrated) for the use of the conference leader, by Guy of Pechiney-Progil, and one on machines for application of insecticides (illustrated).

Most of the time was spent in small discussion groups, which were called "Commissions." You will see by the program enclosed how these commissions were formed up, and the subjects they discussed. I attended several of these, spending most of my time with the "Maize" commission, and some with the nomenclature commission. The latter did not make much progress (in defining terms and common names of insects) but eventually adjourned by appointing several subcommissions to recommend on various aspects of the subject. I arose to protest the general use by the French of "Parasites" for noxious insects—e.g. *P. nubilalis* is called a "parasite" of corn.

In these commissions, discussion was led off by a worker on the subject, in an informal manner, and then thrown open to all present. Interest was keen, and discussion earnest, and almost everyone seemed intensely interested in what was being said and done in regard to the subject under discussion.

I heard a few disparaging remarks (privately) on the Congress as a whole, but these came in each case from a sales representative of commercial houses, and not in any case from a scientific worker of a ditto house.

Enclosed is a program of the meetings, list of the various commissions and the subjects discussed by them, list of participating members, etc. (On file with the Executive Secretary.) I understand the proceeding will be published or mimeographed, in which case I will try to furnish you a copy.

The Minister of Agriculture and Public Health of Luxembourg gave a reception for the delegates on Wednesday evening at 6:30, but I had gone out into the country looking for yellow clover aphid about

5 p.m. and forgot all about this, which I regretted seeing as I was the only American delegate present.

Respectfully submitted,
Harry L. Parker

II.

In accordance with the President's request I attended the meeting with the committee on Biological Coding at 4:30 on September 7, in room 104 in Berky Hall on the Michigan State University campus.

Dr. Congdon Wood made a series of opening remarks, the upshot of which was a review of various coding systems in use for various biological fields. He outlined the advantages and disadvantages and limitations of each system on which a report had been received. The reports referred to apparently came from the Florida State Plant Board, the University of Wisconsin, the National Research Council, and various workers in different parts of the world. Generally speaking the advantages outweighed the disadvantages. The only serious disadvantage appeared to be the possibility that small segments of the biological workers might want to use some specialized system of reporting which would be difficult to integrate in an over-all system. Dr. Wood stressed that there is no intent to revise taxonomy to fit a coding system.

The second point made by Dr. Wood pointed out the needs for coding as exemplified by reports from various workers.

His third point took up the matter of the mechanical problems that have to be solved in the devising of the biological coding system due to the diversity of problems which might come under the system. These would not appear insuperable.

The meeting was then thrown open to a discussion by people using coding systems; notably Dr. Denmark of the Florida State Plant Board and Dr. Stancotti of Biological Abstracts who talked at length. Apparently the gentlemen making the remarks were willing to give in the sense that while they are already using systems of their own invention they would be very grateful indeed to conform with an over-all system.

The meeting broke up at 5:30 p.m. after preliminary efforts to determine the consensus. While nothing formal was adopted all those present seemed to be in favor of a uniform system.

Respectfully submitted,
Ray Hutson

III.

I faithfully sat through the Symposium on Education at Lansing but I'm afraid that I made no contribution either as an entomologist or as a professor. The whole idea of having a National Research Council Committee on Education seems to be a good one and lit looks as though they would serve nicely as a sort of clearing house for ideas on these vexing questions.

Respectfully submitted,
Marston Bates

PROCEEDINGS OF THE THIRTY-NINTH ANNUAL MEETING

PACIFIC BRANCH

ENTOMOLOGICAL SOCIETY OF AMERICA

Riverside, California, June 22, 23, and 24, 1955

The thirty-ninth annual meeting of the Pacific Branch was held at Riverside, California, June 22, 23, and 24. The officers during the meeting were John B. Steinweden, Chairman; Walter Carter, Vice-Chairman; and Leslie M. Smith, Secretary-Treasurer. The chairmen of the various committees were: M. M. Barnes, program; O. P. Steinen, arrangements; J. C. Ortega, registration; E. L. Atkins, operations; M. C. Lane, nominations; H. H. Keifer, membership; R. E. Campbell, resolutions; C. A. Ferris, auditing; Howard Cook, press; and Mrs. O. P. Steinen, arrangements for ladies. Presiding at various times during the program were: J. B. Steinweden, R. E. Campbell, M. M. Barnes, D. F. Palmer, A. F. Swain, G. E. Carman, and Walter Carter.

The Entomological Club of Southern California met jointly with the Pacific Branch. The Jurupa Entomology Club sponsored a collecting trip for members of the Pacific Branch on Saturday, June 25.

Provost Gordon S. Watkins of the University of California, Riverside made the address of welcome. He discussed the Department of Entomology of the University of California, statewide, and pointed out that the department employs eighty scientists and a total staff of 180 people.

Dr. George C. Decker, President of the Entomological Society of America addressed the meeting and discussed the operation of the National office.

Interesting invitational papers were presented by: J. T. Coyne of the Pesticide Regulation Section, Agricultural Research Service; J. U. McGuire of the Biometrical Services, Agricultural Research Service; E. A. Steinhilber, University of California; J. F. Kagi of the Dow Chemical Company; G. E. Carman, University of California; and I. M. Newell, University of California.

Symposia were as follows: *Current Research on Aircraft Spraying*, Kenneth Messenger, moderator, C. H. Branstetter, G. A. Roth, D. A. Isler, and N. B. Akesson; *Insect Population Dynamics*, Ray F. Smith, moderator, A. J. Nicholson, J. H. Pepper, Walter Ebeling, and C. B. Huffaker; *Recent Advances in Research with Trypetid Flies*, L. D. Christenson, moderator, N. E. Flitters, P. S. Messenger, Walter Carter, I. M. Newell, K. E. Frick, F. L. Blanc, H. H. Keifer, J. C. Ortega, J. G. Shaw, J. F. Cooper, W. E. Stone, T. Nishida, L. F. Steiner, J. W. Balock, M. McPhail, F. G. Hinman, and D. L. Lindgren; *The Khapra Beetle*, H. M. Armitage, moderator, H. H. Keifer, L. A. Carruth, D. L. Lindgren, Randall Latta, W. L. Popham, and L. J. Padgett; *The Yellow Clover Aphid*, L. D. Anderson, moderator, F. G. Werner, R. C. Dickson, D. M. Tuttle, H. T. Reynolds, and W. L. Howe.

Forty-nine submitted papers were presented in addition to the 43 invitational and symposium papers.

The Executive Committee met and rendered the following decisions: (1) The next meeting should be held in the Claremont Hotel, Berkeley. (2) The Executive Committee should be expanded from seven to nine members, by adding three new members at large to be nominated and elected from the floor, and deleting the immediate past Chairman.

Walter Carter presented before the Executive Committee an invitation to the Pacific Branch, Entomological Society of America to meet in the Hawaiian Islands. The invitation was extended by the Governor of Hawaii, the Mayor of Honolulu, the Hawaiian Entomological Society, and the Chamber of Com-

merce of Honolulu. Dr. Carter was instructed, in his capacity of Chairman of the Branch, to poll the members of the Branch by mail ballot on the question of meeting in the Hawaiian Islands.

At the preliminary business meeting of the Pacific Branch, the Secretary, Leslie M. Smith reported the recommendation of the Executive Committee relative to expanding its membership. He pointed out that such action can be achieved only by amending the Constitution of the Pacific Branch and that passage of an amendment requires first a recommendation by the Executive Committee and a 4/5 affirmative vote of members assembled in the meeting. E. H. Littooy then moved that the Chairman appoint a study committee of three to study the desirability of expanding the Executive Committee and to report their findings at the final business meeting of the current meetings. This motion was seconded and passed. Chairman Steinweden then appointed the study committee, composed of Al Boyce, Roy Campbell, and Ed Littooy, chairman.

At the final business meeting, Chairman Steinweden called for nominations to fill the vacancy on the Executive Committee, created by the expiration of the term of J. H. Kagi. L. C. Glover was nominated for this office and duly elected.

Chairman Steinweden called for the report of the Study Committee on expanding the Executive Committee. The following report was submitted:

In view of the tremendous and continuing increase in the membership in the Pacific Branch and the multiplicity of problems being presented meriting wider representation on the Executive Committee of the various agencies involved, it is recommended that the number of members elected at large be increased from three to six, and that the following changes in the constitution be approved to permit such action.

Article III, Sec. 2, be amended to read: The Chairman, the Vice-Chairman and the Secretary-Treasurer, together with six active members, two of whom shall be elected each year for a term of three years, shall constitute the Executive Committee.

It is further recommended that Article III, Sec. 2, be further amended to provide that the term of office of the three new members added to the Executive Committee shall be for one, two and three years respectively.

It was moved and seconded that the proposed changes in the Constitution be made. This motion passed unanimously. The incoming Chairman was instructed to choose the names for one, two and three year terms by drawing lots.

Chairman Steinweden then called for nominations to fill the newly created vacancies on the Executive Committee. Martin Barnes, Hartford Keifer, and Charles Doucette were nominated and duly elected.

Chairman Steinweden called for the following reports and each in turn was duly accepted by a vote of the members present:

TREASURER'S REPORT

Balance on hand June 30, 1954	\$148.63	
Receipts during the year	691.25	
Total		\$839.88
Disbursements during the year	\$555.76	
Balance on hand June 22, 1955	284.12	
Total		\$839.88

A detailed copy of the Report of the Treasurer was examined by the Auditing Committee and is in the files of the undersigned.

Leslie M. Smith
Secretary-Treasurer

REPORT OF THE AUDITING COMMITTEE

We have examined the accounts of the Treasurer and find them to be correct.

E. L. Wampler
A. E. Michelbacher
C. A. Ferris, Chairman

REPORT OF THE MEMBERSHIP COMMITTEE

The plan of action of the 1954-55 membership committee was to place a committeeman in each of eleven key areas covered by the Pacific Branch. A twelfth committee member was also a member of the Society membership committee. The Branch Chairman and Branch Secretary were active in securing new members so we in practice had a 14-member committee.

The total number of new members secured during the year was 73. Of these the actual committee accounted for 58.

For various reasons, principally movement of Entomologists from one place to another, it is not possible to know precisely at any one time how many Society members actually reside in the Pacific Branch area. Prior to the 1954 Branch meeting at Bend, Oregon, the Branch Secretary had 965 members. For this 1955 meeting he has mailed 994 programs. This is a net gain in new members over last year of 29 for the Branch.

During this membership campaign the committee chairman has had the advantage of being near the Branch Secretary and has received much helpful advice from him.

The various committee members have cooperated effectively in this work and have all secured results in proportion to the opportunities in their respective areas. The number of new Society members secured by these people is tolerably well distributed throughout the whole committee and not notably concentrated in the efforts of 2 or 3.

The committee chairman extends his appreciation to all who have engaged in this effort.

Personnel of the Branch Membership Committee:

John Sanjean, British Columbia
H. P. Lanchester, Central and Western Washington
R. W. Portman, Idaho and Eastern Washington
G. F. Knowlton, Utah
G. D. Butler, Arizona
S. C. Jones, Oregon
Martin Sherman, Hawaii
W. W. Allen, San Francisco Bay Region
Ed Littooy, San Joaquin Valley
R. A. Flock, Southern California
A. F. Kirkpatrick, also Member of Society Committee
H. H. Keifer, Northern California and Membership Chairman

REPORT OF THE RESOLUTIONS COMMITTEE

Resolution No. 1

Whereas, the members of the Pacific Branch of the Entomological Society of America, their families and friends, have enjoyed an excellent program, and

Whereas, the Thirty-ninth Annual Meeting of the Pacific Branch has provided an excellent opportunity to meet with old friends and to make new ones:

Be it therefore resolved, that the membership express its appreciation to the following individuals and organizations who were responsible for the success of the meeting,

- (A) To the Program Committee, Martin M. Barnes, Chairman
- (B) To the Committee on Arrangements, Otto P. Steinen, Chairman
- (C) To the Committee on Arrangements for the Ladies, Mrs. Otto P. Steinen, Chairman
- (D) To the Registration Committee, Jack Ortega, Chairman
- (E) To the Operations Committee, Larry Atkins, Chairman
- (F) To all other Committees, Officers and Members who contributed so much to the success of the meeting.
- (G) To President George Decker of the Entomological Society of America, and to the several invitational speakers.
- (H) To Mr. Barker of the Riverside Chamber of Commerce for his assistance.
- (I) To Mr. Jack Buchannan, Manager of his staff of the Mission Inn for their many thoughtful courtesies to the Society and its members.
- (J) To Mr. Howard Cook for so ably handling the publicity for our convention.

Be it resolved, that the Secretary be instructed to send a letter of thanks to each of the above.

L. C. Glover
E. M. Stafford
Roy E. Campbell, Chairman

REPORT OF THE NOMINATING COMMITTEE

The Nominating Committee suggests the following officers for 1955-56:

Chairman—Walter Carter
Vice-Chairman—Louis G. Gentner
Secretary-Treasurer—Leslie M. Smith

The Nominating Committee have unanimously agreed that Dr. Louis G. Gentner, entomologist and assistant superintendent of the Southern Oregon Branch Experiment Station, Medford, Oregon, richly deserves and has earned the right to be Vice-Chairman, by his research in entomology and loyalty to the Pacific Branch through the years.

We move that the nominations be accepted.

Paul O. Ritcher
H. Mort Armitage
Merton C. Lane, Chairman

It was moved, seconded and passed that the nominations be closed and the Secretary cast a unanimous ballot for these candidates.

The members enjoyed a banquet, water ballet, and dance. Additional entertainment for the ladies included a coffee hour and tours of the Guasti vintage company, the Padua Hills, and the Mission Inn. A total of 404 members and guests registered at the meetings, and wives, children, and visitors brought the total attendance to 540.

Respectfully submitted,

Leslie M. Smith
Secretary-Treasurer
Pacific Branch

BOOK REVIEWS

ANNUAL REVIEW OF ENTOMOLOGY, Volume 1, 1956, Edited by E. A. Steinhaus, et al. 8vo., cloth, 466 pp., illus., Annual Reviews, Inc., Stanford, California, in cooperation with Entomological Society of America. 1956. \$7.00.

The membership of our Society and our colleagues everywhere will welcome with pleasure the appearance of this exceedingly useful book. All of us who have had to struggle with the literature of entomology have long realized the very definite need for a work of exactly this type. It has been conservatively estimated that there is appearing in world scientific literature well over 4000 papers in entomology each year. There is reason to believe that the actual number is considerably greater than this, and that it will continue to grow. Some of this literature is scattered and inaccessible, and much of it appears in journals not primarily concerned with insects. Clearly, the mass of literature accumulating in all of the various fields of entomology is beyond the ability of any one individual to obtain readily, to read thoroughly, and to appraise critically. There has been, in recent years, a growing realization of this fact among entomologists generally, and one of the suggested solutions to the problem has been to call upon specialists in the various branches of entomology to prepare for their fellow entomologists authoritative and scholarly reviews of the literature in their particular specialties. All of these and other facts pertaining to the story of the background of this book are brought out in its preface—but it was not until 1953 that a committee of the Entomological Society of America was actually appointed to examine the problem of providing adequate reviews of entomological literature. After an exhaustive study, this committee recommended that the present needs of entomology would best be met by a review publication of the type published by the nonprofit organization, Annual Reviews, Inc., which since 1931, has devoted itself to the publication year by year, of critical reviews designed to cover systematically the current literature in certain major fields of science, in which the situation was similar to that facing the entomologists. This organization was approached on the matter, and, after an appraisal of its own, it also concluded that there was a real need for a review publication in the field of entomology, and it agreed to undertake the publication of an Annual Review of Entomology. The Entomological Society of America, in turn, agreed to assist and to give its support in a number of matters incident to the organization and publication of the Review. The primary objective in the plan is to publish authoritative and concise treatments of definitive subjects of current interest. It is expected that the more active fields of research will require critical reviews annually while the less active areas will be summarized and evaluated as developments require—these to be solicited judiciously from leaders in the fields concerned. It is hoped that each review will present a critical analysis of recent literature and, in so far as feasible, an appraisal of the present status of the subject, though it is realized that such a policy may necessitate the omission of some papers that may be of more than passing interest. Then too, it is not unlikely that a review now and then may engender more or less controversy because of personal opinions and interpretations of reviewers. However, by presenting divergent viewpoints in successive years, it is pointed out by the Editors that a well-rounded treatment of the subject as a whole should eventually be attained. "It is hoped that the reviews will pursue a middle course which avoids the extremes of the personal advocacy of a restricted field on the one hand, and a mere con-

catenation of bibliographic summaries and abstracts on the other. The Editors and the Editorial Committee invite and will always welcome suggestions for improvements."

Some idea of the scope, the subjects and the selection of authorships may be gained by enumeration of the 21 papers making up the newly issued Volume I of the series. These are as follows: "The Physiology and Biochemistry of Diapause," by A. D. Lees, University of Cambridge, England, 16 pp.; "Insect Nutrition," by H. Lipke and G. Fraenkel, University of Illinois, 28 pp.; "The Language and Orientation of the Honey Bee," by K. von Frisch and M. Lindauer, Universität München, Germany, 13 pp.; "The Stability of Scientific Names," by R. L. Usinger, University of California, 11 pp.; "Some Aspects of Geographic Variation in Insects," by T. H. Hubbell, University of Michigan, 16 pp.; "Arthropod Resistance to Chemicals," by W. M. Hoskins and H. T. Gordon, University of California, 33 pp.; "The Mode of Action of Insecticides," by C. W. Kearns, University of Illinois, 25 pp.; "The Chemistry of Insecticides," by H. Martin, Canada Department of Agriculture, 17 pp.; "Persisting Insecticide Residues in Plant Materials," by F. A. Gunther and R. C. Blinn, University of California, 13 pp.; "Repellents," by V. G. Dethier, Johns Hopkins University, 21 pp.; "Soil Insects and Their Control," by J. H. Lilly, Iowa State College, 14 pp.; "Stored Products Entomology (The assessment and reduction of losses caused by insects to stored foodstuffs)," by E. A. Parkin, Pest Infestation Laboratory, Slough, Bucks, England, 17 pp.; "Apparatus for Application of Insecticides," by J. L. Brann, Jr., Cornell University, 19 pp.; "Ecology of Forest Insects," by S. A. Graham, University of Michigan, 19 pp.; "Some Recent Advances in Apicultural Research," by C. G. Butler, Rothamsted Experiment Station, England, 17 pp.; "Insect Transmission of Plant Viruses," by F. F. Smith and P. Brierley, U. S. Department of Agriculture, 23 pp.; "Nonbiting Flies and Disease," by D. R. Lindsay, National Institute of Health, and H. L. Scudder, U. S. Public Health Service, 23 pp.; "Veterinary and Medical Acarology," by H. S. Fuller, Walter Reed Army Medical Center, 19 pp.; "Modern Quarantine Problems," by A. F. Camp, Florida Citrus Experiment Station, 11 pp.; "The Fundamental Theory of Natural and Biological Control," by W. R. Thompson, Commonwealth Institute of Biological Control, Canada, 23 pp.; and "Effect of Pesticides on Balance of Arthropod Populations," by W. E. Ripper, Fisons Pest Control, Ltd., Cambridge, England, 35 pp. Each and every paper has been accompanied by an appropriate bibliography (but regrettably with the titles of cited references omitted), making a total of 2,308 references, the least in number being that accompanying the paper on insect names with 11 references, and the greatest in number being that accompanying the paper on insect nutrition with 269 references, or an over-all average of approximately 110 references per paper. Author and subject indexes to the entire volume, making an additional 27 pages, also are included.

As would be expected in a volume of this kind—being, as it is, the first of a series—there may be found here and there occasional lack of uniformity, this not only in the selection but also in the arrangement of material—and these lapses occur both in the text and in the bibliographical citations. Then too, in this first volume, the word "Annual" in the title should not be taken too seriously, for the reason that it was found necessary in numerous instances, in order to make the subject well rounded out and complete, that a much longer period of

(Continued inside back cover)

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Executive Secretary R. H. Nelson, Washington, D.C.

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Program Committee

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Committee on Insecticide Terminology

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 C. N. Smith..... 1958
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 C. C. Roan..... 1957
 A. B. Lemon..... 1956
 H. L. Haller, *Chairman*..... 1956

Committee on Insecticide Reference Standards

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 F. W. Fisk..... 1958
 E. E. Ivy..... 1957
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 H. H. Schwardt..... 1958
 R. F. Smith..... 1958
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 L. C. Kuitert..... 1957
 J. L. Laffoon..... 1957
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 R. L. Usinger..... 1958
 G. S. Walley..... 1958
 J. L. Gressitt..... 1957
 C. D. Mitchner..... 1957
 R. M. Bohart..... 1956
 H. E. Evans..... 1956
 G. C. Steyskal..... 1956
 J. T. Medler, *Chairman*..... 1957

SOCIETY REPRESENTATIVES

Representatives to the Joint Committee on Grassland Farming

W. A. Baker..... 1956

Representative to the National Research Council, Division of Biology and Agriculture.

Floyd F. Smith..... June 30, 1956
 A. B. Gurney..... June 30, 1959

Representative to the Agricultural Research Institute, Agricultural Board.

H. H. Shepard..... 1959

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